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THE ARCHITECTS' JOURNAL



andard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

EWS and COMMENT
tragal's Notes and Topics
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ECHNICAL SECTION
formation Sheets
formation Centre
rrent Technique
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estions and Answers
ices
e Industry

URRENT BUILDING
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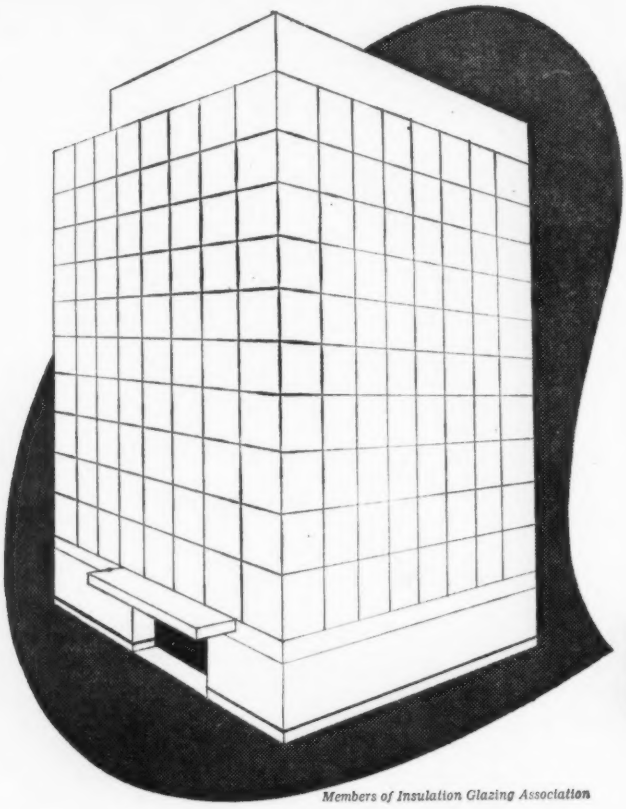
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★A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ii one week, Il to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

ILA	Institute of Landscape Architects. 1, Park Crescent, Portland Place, W.1. Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1. Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1. Welbeck 9966
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee). Fire Research Station, Boreham Wood, Herts. Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2. Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Hyde Park 7070
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 14 Howick Place, Victoria Street, S.W.1. Victoria 1600 & 6477
NAS	National Association of Shopfitters. 2, Caxton St., S.W.1. Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1. Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalte Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1. Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9245
RFAC	Royal Fine Arts Commission. 5, Old Palace Yard, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1. Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5040
WDC	War Damage Commission, 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636



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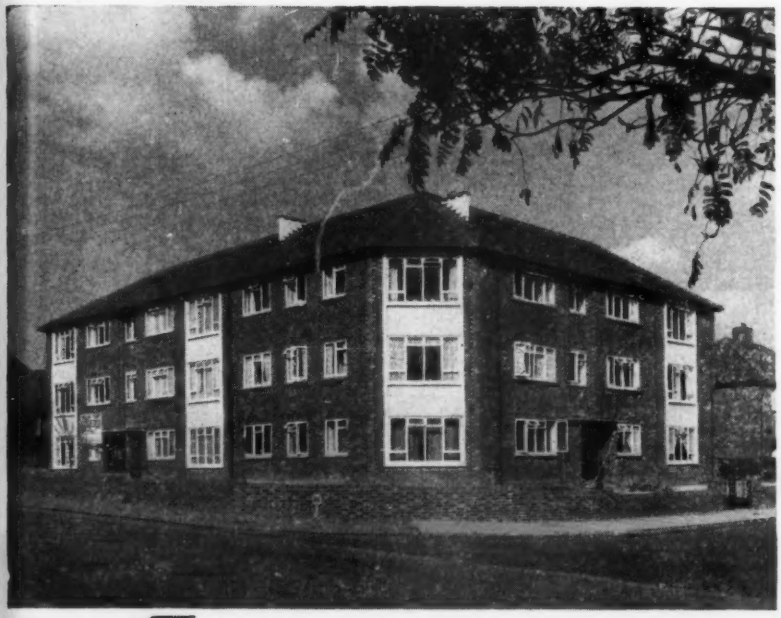
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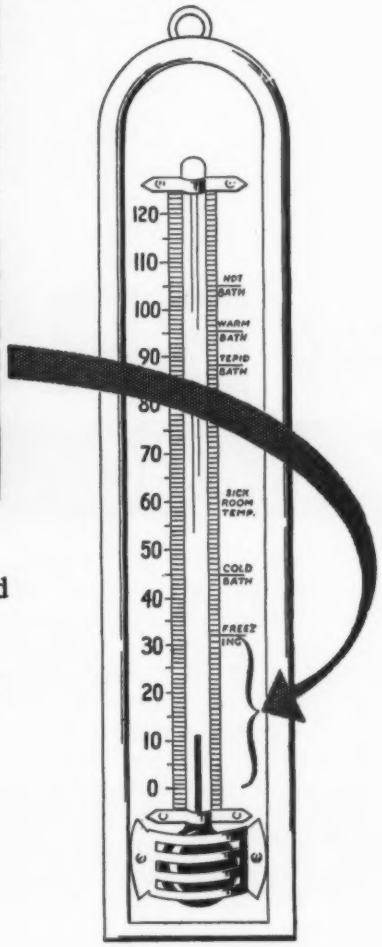
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Block of Flats, Willow Court, Willow Way Luton. Contractors : Stevenson & Spence Ltd., Harpenden, Herts.



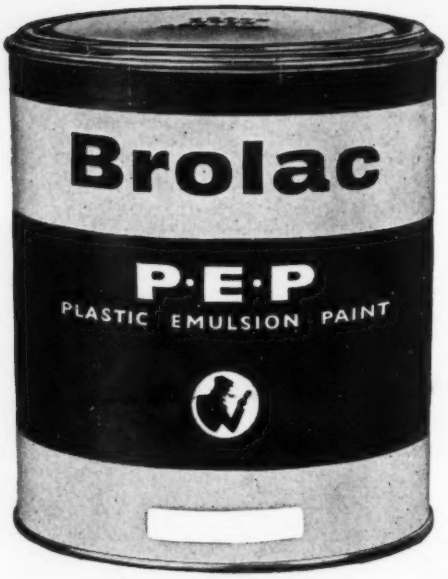
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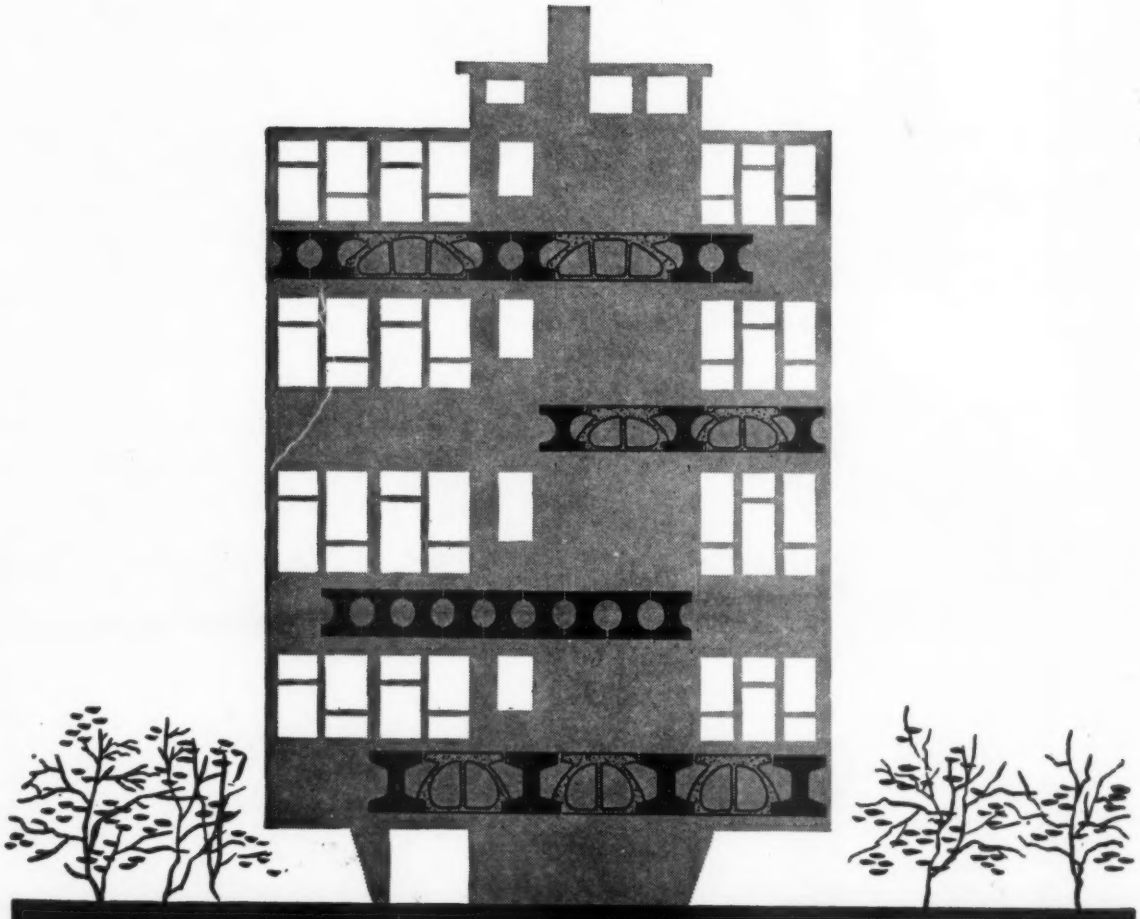
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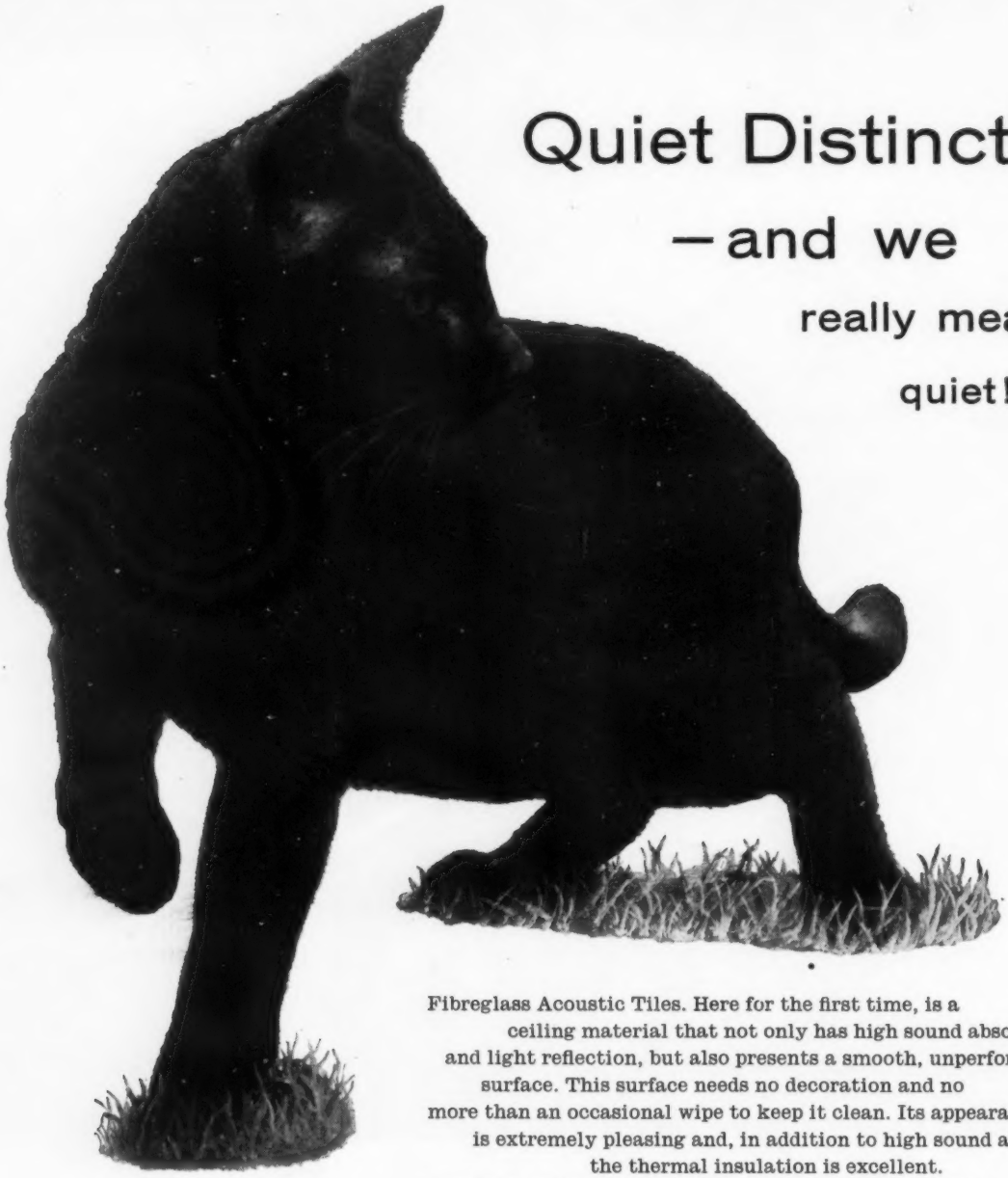
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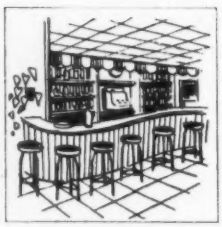
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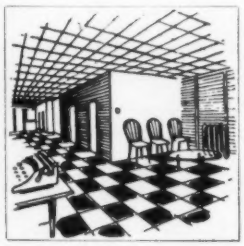


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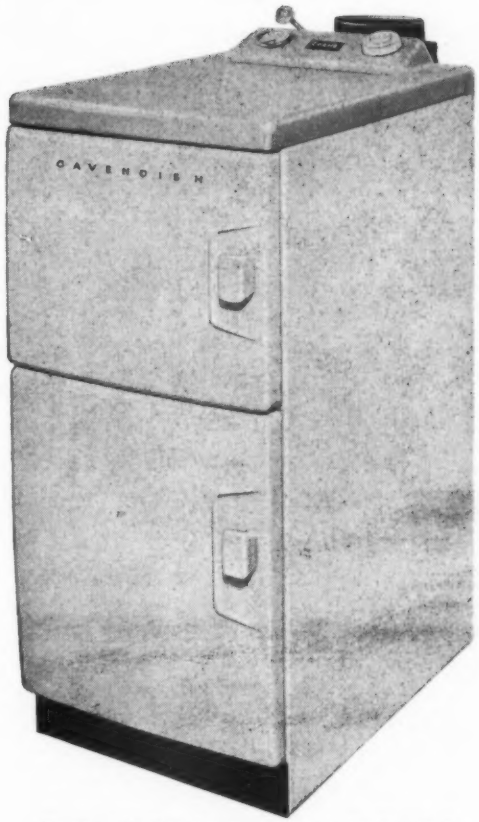
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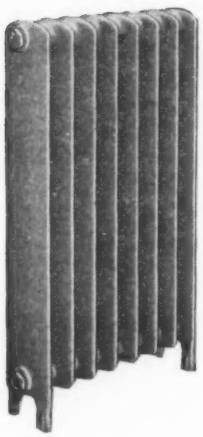
** Most makes of oil-burning equipment are suitable for these boilers.*



The Cavendish Boiler has been accepted by The Council of Industrial Design for display in The Design Centre, London

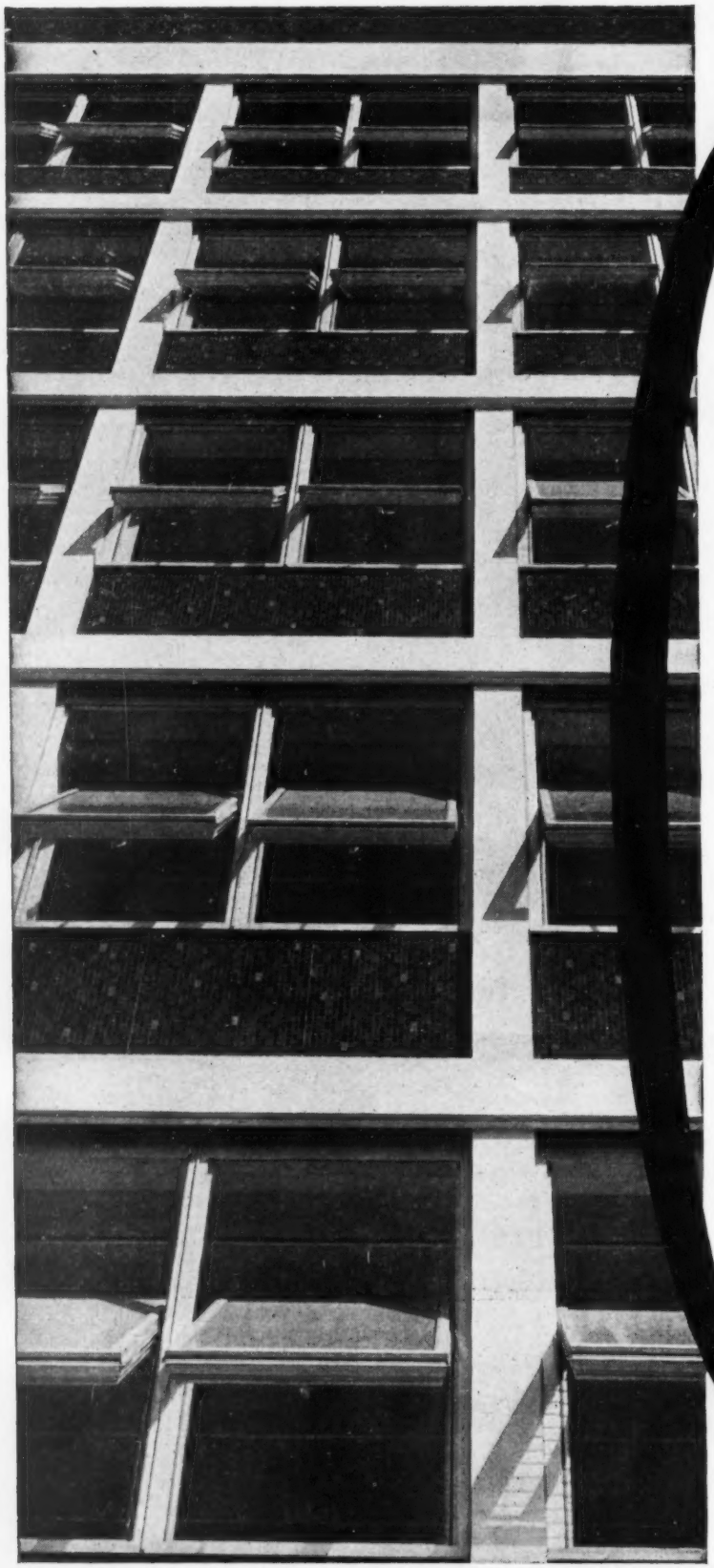
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General view of apex bolted connection

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The portal frame structure is fabricated from Universal beams; each arch was dispatched in four parts, later connected by high-strength bolts.

A feature of the steelwork was the provision for overhead lifting equipment for which the runways were suspended from the arches by A-frames; these are visible in the upper illustration.

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Detail of valley connection

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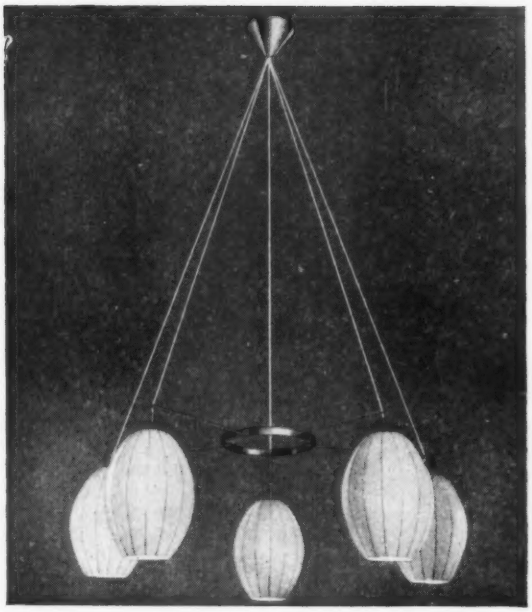
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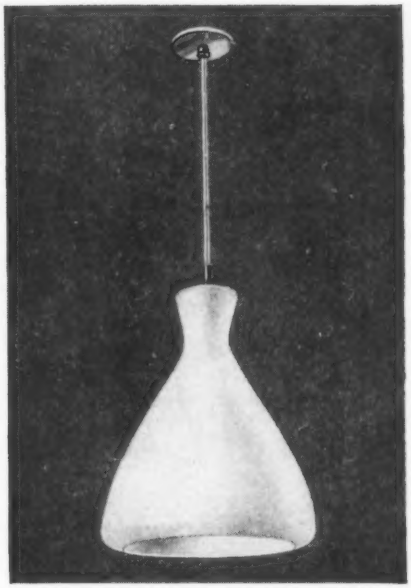
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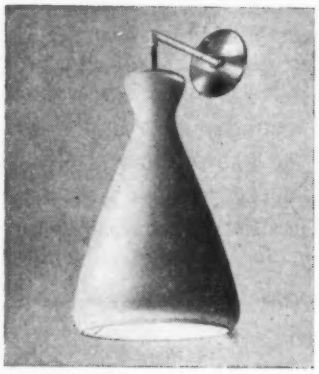


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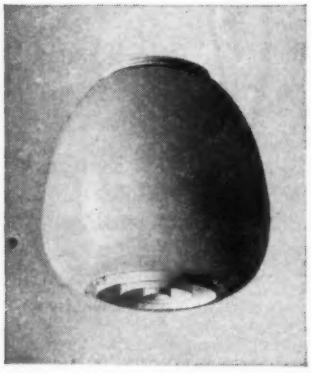
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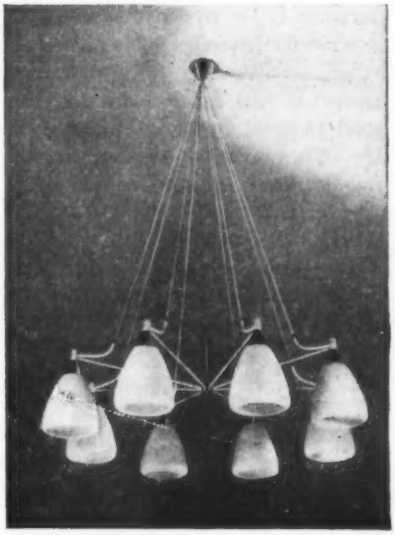
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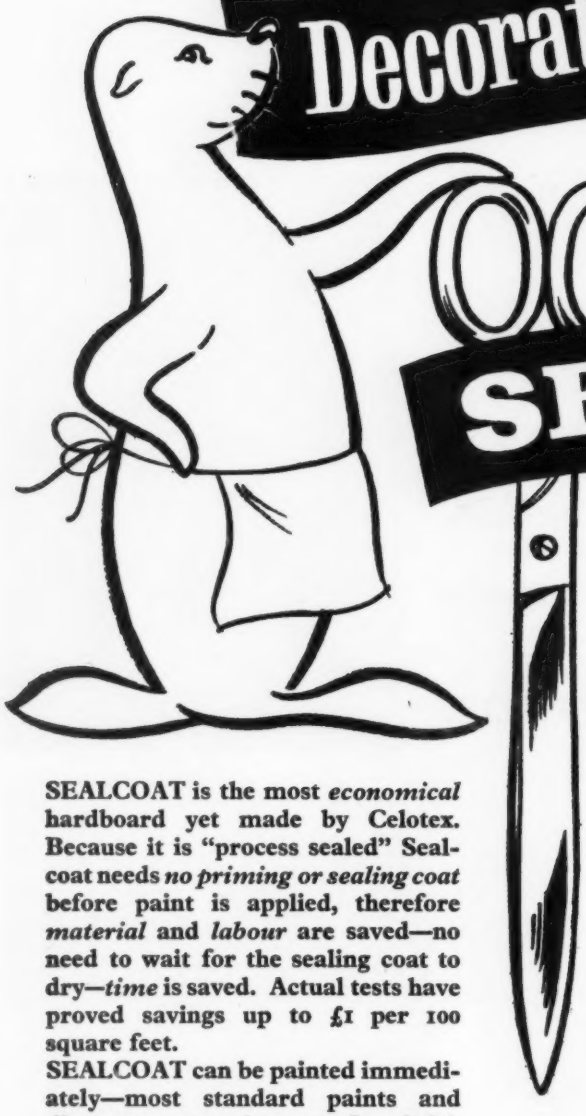
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AP 111

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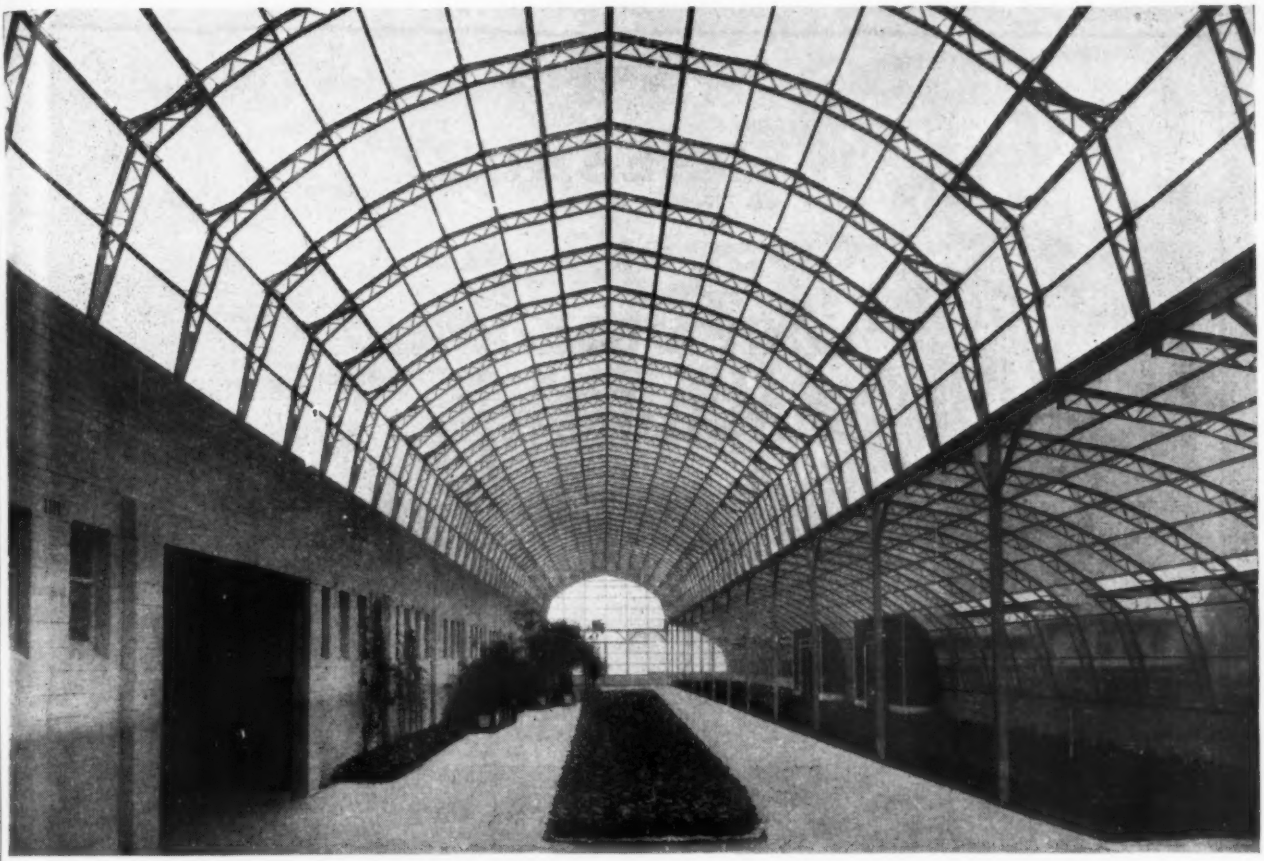
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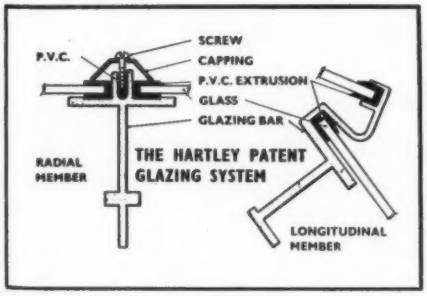
CI13



Floral Conservatory, for the Rhyl Urban District Council. 212 ft. long × 43 ft. wide × 25ft. high.

The HARTLEY Glasshouse range covers all needs

The Hartley range of glasshouses has been designed to meet the requirements of Parks, Research Establishments, Horticulturalists, Nurserymen and Private Gardeners, and include these outstanding features :—

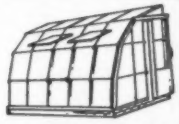


Aluminium alloy construction; new shape with new glazing system to admit far more light; absence of internal supports for unrestricted working space; virtual elimination of breakages —each pane is enclosed on all edges by P.V.C. extrusion and aluminium frame, and so safeguarded against shock, draughts and weather, and against breakages caused by expansion and contraction; stove enamelled structure preventing unsightly surface corrosion.

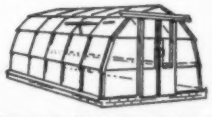
Full details of the Hartley Range are available on request to

V. & N. HARTLEY LIMITED
GREENFIELD, NR. OLDHAM, LANCASHI
Telephone: Saddleworth 444

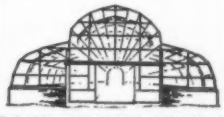
This is the full range of Hartley Glasshouses. Built to any length.



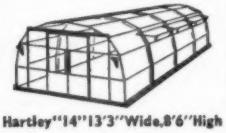
Hartley "7" 7'3" Wide 7'9" High (Lean-to)



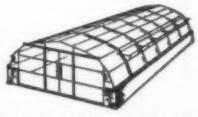
Hartley "10" 10'0" Wide, 7'1" High



Palm House 38'6" Wide, 18'6" High



Hartley "14" 13'3" Wide, 8'6" High



Hartley "18" 18'4½" Wide, 9'0" High



Hartley "21" 21' 7½" Wide 10' 0" High



Hartley "27" 28'1" Wide, 11'9" High

"WEDNESBURY" Copper Tube with a Marked Difference





The new smaller mark "WEDNESBURY" indicates a further development in quality. Extensive research has led to the use of new drawing media, purging and burnishing, making the marked sizes of "WEDNESBURY" copper tube to B.S. 659 virtually free from carbonaceous and oxide films.

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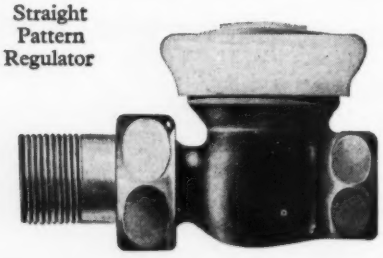
New for Domestic Heating

The HATTERSLEY CENTRAL HEATING REGULATOR

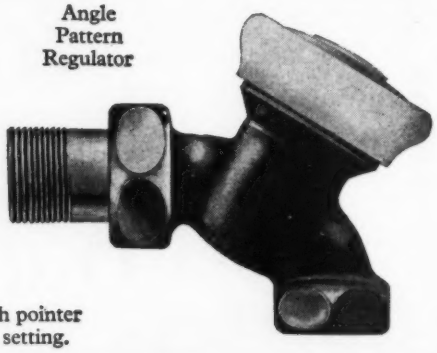
PROV. PATENT 29881/59

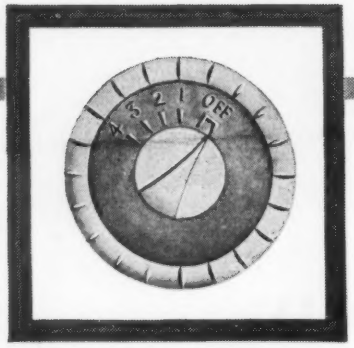
specially designed for hot water heating installations up to 200°F. and 100 ft. head

Straight Pattern Regulator



Angle Pattern Regulator





Left: the control head with pointer indicating regulator setting.

Smart and stylish, as modern as the moment, this new Hattersley Regulator is the perfect choice for contemporary installations. The entirely new "Switch-on" fingertip adjustment automatically regulates the radiator heat output. A quarter turn of the ivory coloured heat-resisting control head permits a range of adjustment from fully open to fully closed, whilst the grey indicator plate shows the exact setting at a glance. The complementary ivory and grey of the head and indicator harmonise perfectly with any decor. An important feature of the Regulator is its extremely low resistance to flow. It can be used on any part of a domestic heating system and no other type of control valve is necessary. The Regulator is precision engineered with a cast gun metal body. Wheel and Lockshield patterns in Standard and Chromium Plated finish are available with connections for either Iron or Copper Pipes.

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Please write for details to the sole manufacturers.

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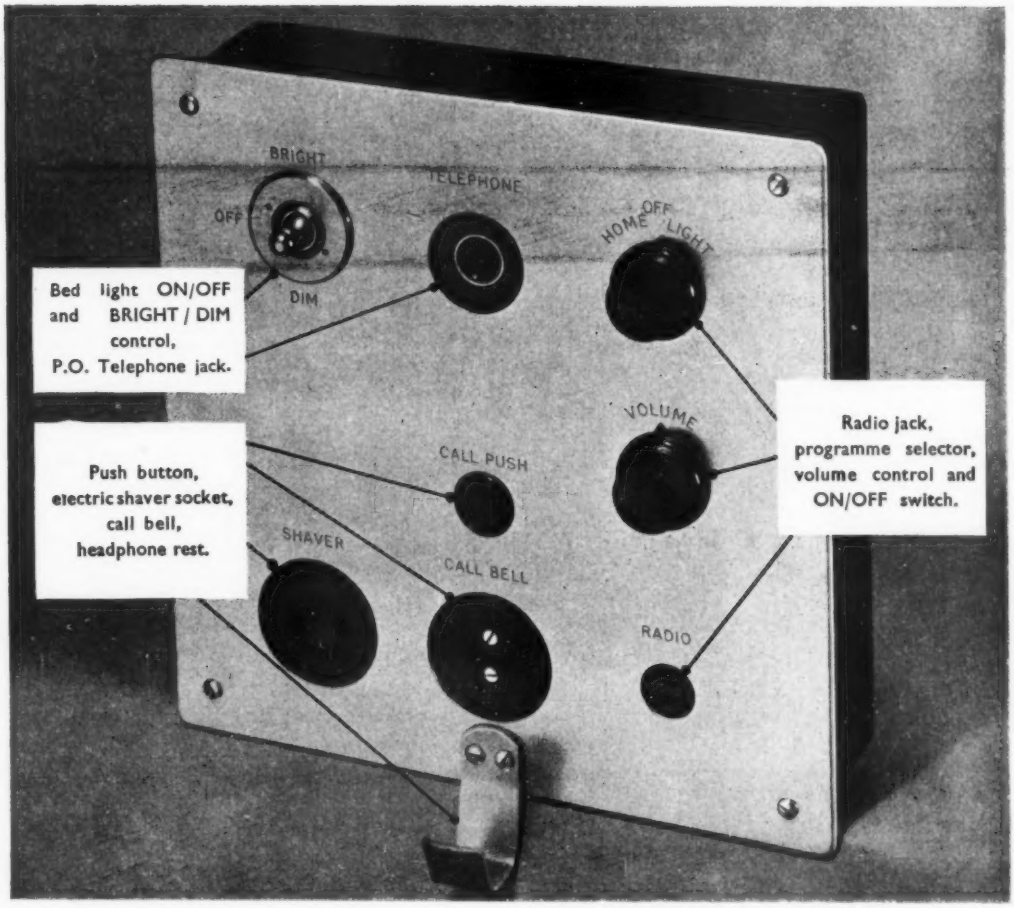


Illustration shows a multi-service bedside unit for hospitals

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TOMO double-glazing at London Airport



Administrative and operations offices for aviation fuel supplies at London Airport, half of which are occupied by Shell-Mex & B.P. Ltd. and the other by Esso Petroleum Co. Ltd. Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.

We think you'll agree that the appearance of these attractive offices at London Airport is enhanced by their TOMO double-glazed WINDOWS. But that's only a small part of the story. TOMO double-glazing also offers excellent thermal-efficiency values, remarkable sound-reduction properties, finely-controlled ventilation and total indoor window-cleaning.

On the subject of thermal efficiency, we should like to refer you to the report of a recent B.R.S. test quoted on the right. It speaks volumes.

When you work within whistling distance of aircraft, sound reduction becomes a matter of vital importance. Here TOMO WINDOWS score heavily. The total reduction in sound level depends finally, of course, on the thickness of glass employed and the space between panes. Using 32-ounce glass spaced at 1⅞in., TOMO double-glazing gives a reduction of approximately 40 decibels and will, we hope, save Shell-Mex and Esso personnel not a few headaches in the future.

One last point, TOMO double-glazed WINDOWS are suitable for inward or outward opening and can be top-hung, bottom-hung, side-hung or pivot-hung. Any further information you may require will be gladly supplied.

BUILDING RESEARCH STATION TESTS

When a standard-production TOMO WINDOW Wall-Unit (8ft. by 8ft.) was tested at the Building Research Station, Garston, the mean thermal transmittance of the complete unit was found to be 0·31 B.Th.U./sq. ft./h./°F. This is equal to the thermal transmittance of a traditional 11in. cavity brick wall! This impressive result was further improved to 0·29 when the TOMO pleated blinds, fitted between the panes, were lowered. The U-value of the window-area only was found to be 0·38 which, with TOMO pleated blinds down, became 0·35. At 0·38, TOMO double-glazed WINDOWS are substantially (29%) better than the U-value of 0·47 quoted for conventional double windows in the I.H.V.E. Guide to Current Practice, 1955.

FOR UTMOST EFFICIENCY IN THERMAL INSULATION AND SOUND REDUCTION—

SPECIFY TOMO DOUBLE GLAZED WINDOWS

—purpose-made in finest timbers to Architect's size, style and finish

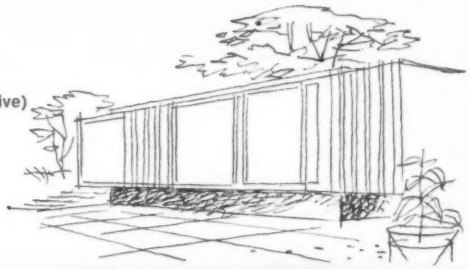
NEW!

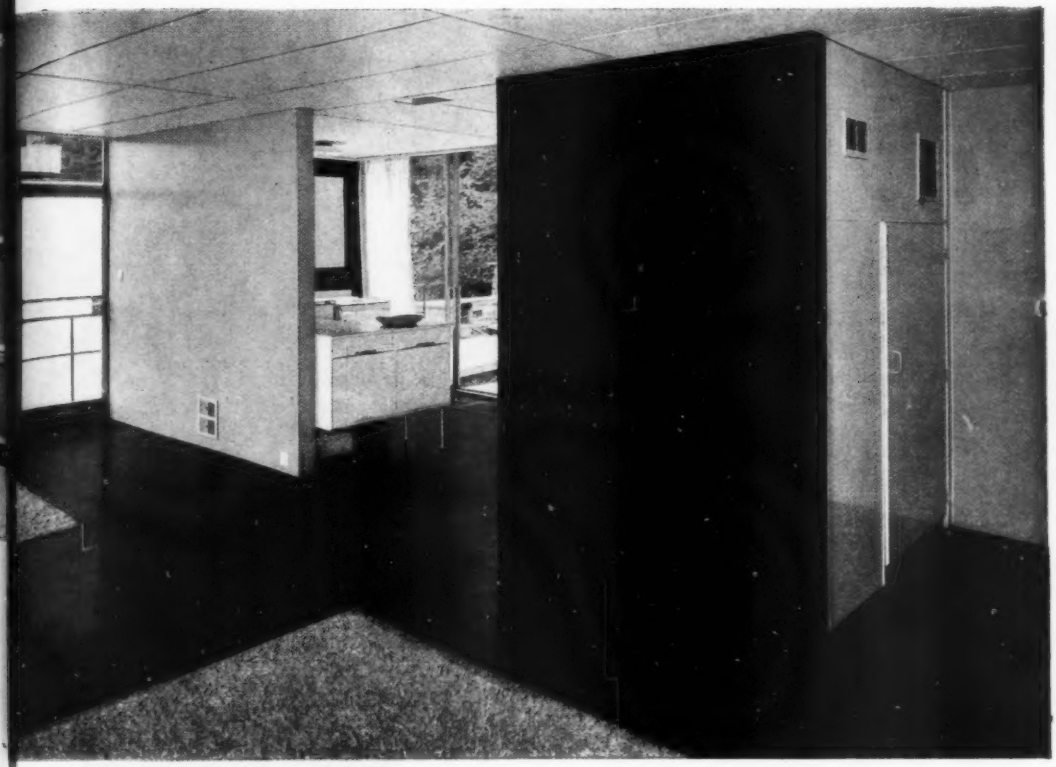
A Stock-size TOMO double-glazed 'Picture' Window, horizontal-pivot hung, to the BSS644 overall size 5'11¼" wide×4'0¼" high. Made from best quality softwood, ready-primed; £25 nett ex-works.

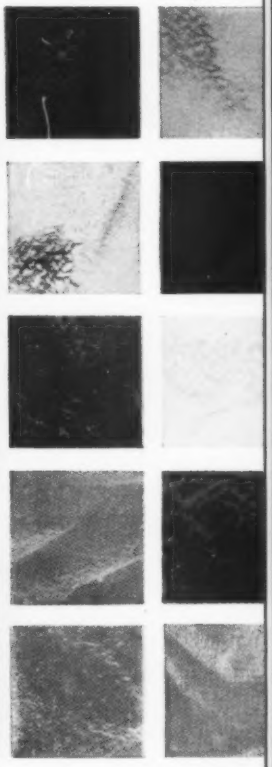
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Telephone: West Drayton 3751 (10 lines)

HOUSE AT BRANCH LANE, ALMONDBURY, YORKS,
featuring Nairn Vinyl tiles. Photo: Mann Bros. (Courtesy Peter Stead of Design Collaborative)
'. . . the first of a series of projects in which the designers are attempting to create living environments using colour-space considerations. The spaces, inside and outside, are determined by planes of colour . . . These coloured planes interact, giving continuous visual rhythms . . . creating a system of chromoplastic relationships and spaces that is clear-cut, yet tranquil.'
ARCHITECTURAL DESIGN, July 1959







NAIRN Vinyl tiles

A complete range of 19 attractive colours for commercial and domestic use

give you 19 planned colours to simplify colour-matched design

Using Nairn Vinyl tiles, you can choose from *planned* colours. Virtually all correspond closely with B.S.2660, making it easy to design a floor that will fit in with the overall colour plan of your project. A marbled finish helps to maintain their appearance in heavy traffic areas. To satisfy a particularly big demand, plain black and plain white are available for use in the 2.0 mm range.

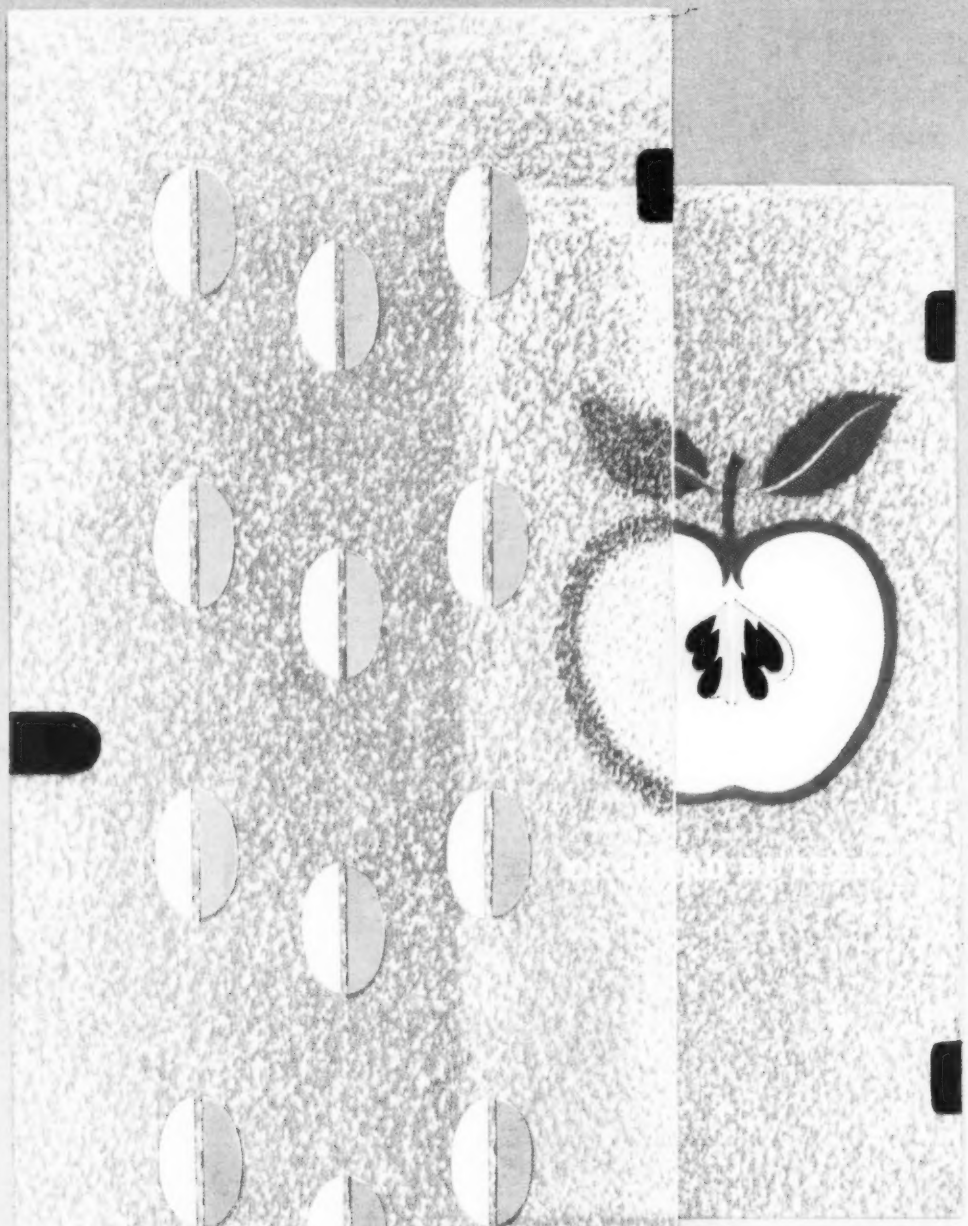
The colour range shown here is based on the experience of our French factory, whose range has proved most popular with Continental designers. All 19 colours are available in the 2.0 mm domestic tiles (9″ x 9″). In the heavy-duty 3.2 mm tiles (9″ x 9″ and 12″ x 12″), there are 5 colours in the Contractors' Basic 'A' Range and a further 6 in the Architectural Design 'B' Range. Within each range, every tile is the same price: you can quickly and accurately cost up any installation.

NAIRN TECHNICAL ADVISORY SERVICE

Technical representatives are based at our area offices to advise and give information on all matters concerning floorcovering materials. If you wish to consult one of these representatives, just write or 'phone any of these offices:

MICHAEL NAIRN & CO. LTD., P.O. BOX 1
Kirkcaldy, Scotland. Kirkcaldy 2011 (10 lines)
LONDON EC1: *131 Aldersgate Street. Monarch 3211 (8 lines).*
BIRMINGHAM 2: *65 Temple Row. Midland 5989 (2 lines).*
BRISTOL 4: *349 Bath Road, Bristol 77840.*
MANCHESTER 1: *4 Canal Street. Minshull Street. Central 1417 (3 lines).*
GLASGOW C5: *113 Centre Street. South 1011 (3 lines).*
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designs to direct...



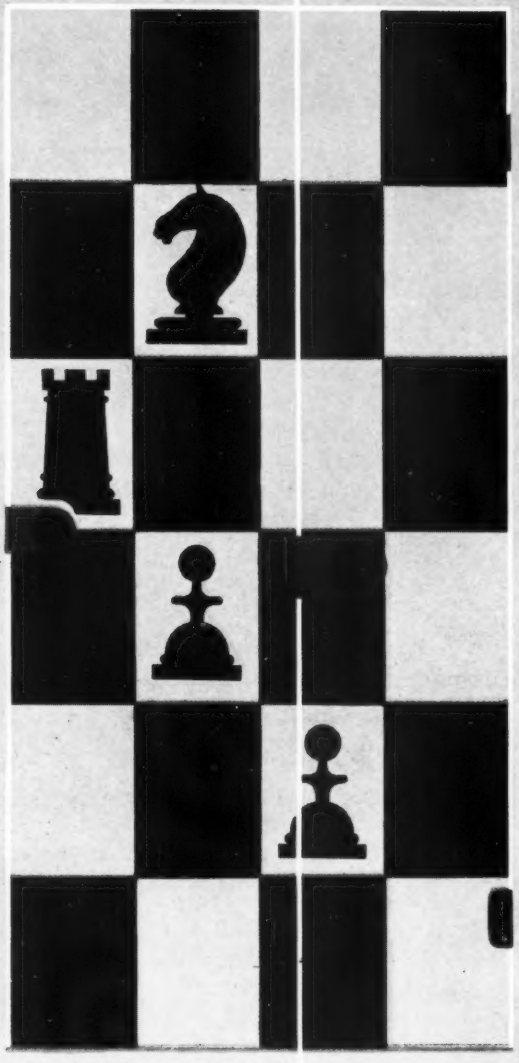
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"ARMOURCAST" Glass Doors

"ARMOURPLATE" AND "ARMOURCAST" ARE REGISTERED TRADE MARKS OF PILKINGTON BROTHERS LIMITED

...colour to invite



For full details of "ARMOURPLATE" and "ARMOURCAST" Glass Doors, and for information on the application of designs and patterns in colour, write to the manufacturers: Pilkington Brothers Limited, St. Helens, Lancashire (Tel: St. Helens 4001) or Selwyn House, Cleveland Row, St. James's, London, S.W.1 (Tel: WHItehall 5672-6). Supplies are available through the usual trade channels.

Pilkingtons'

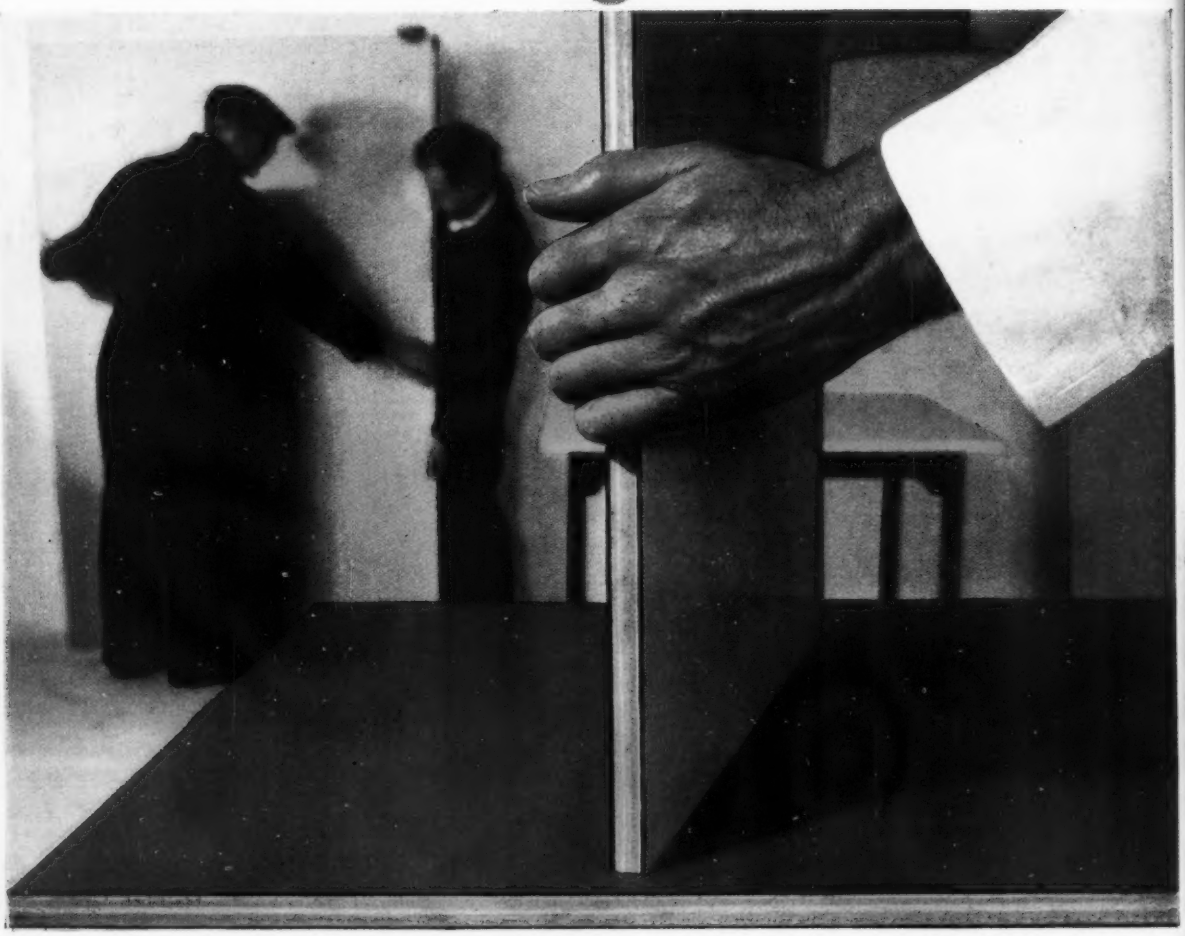
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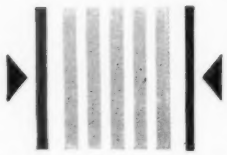
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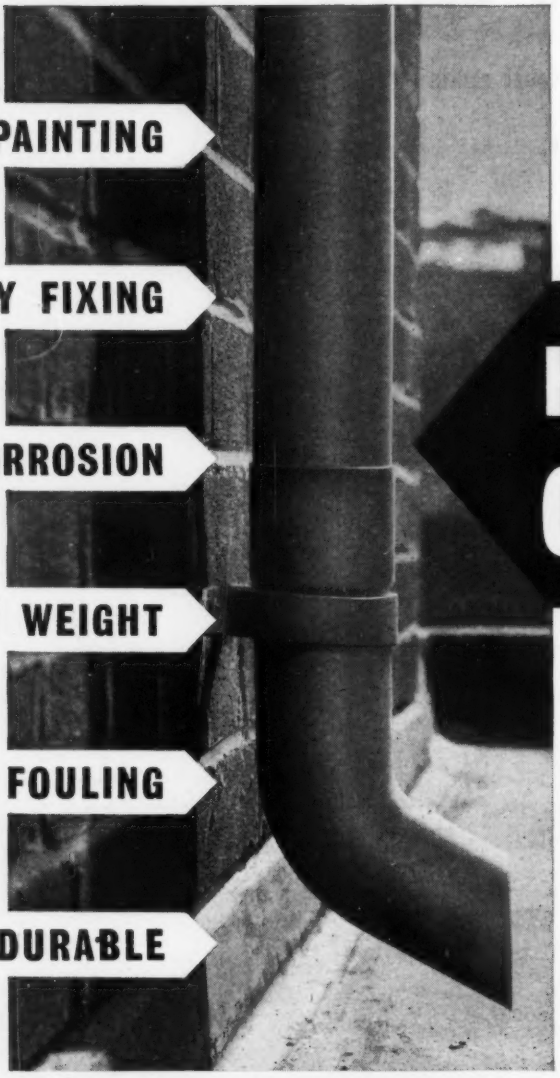
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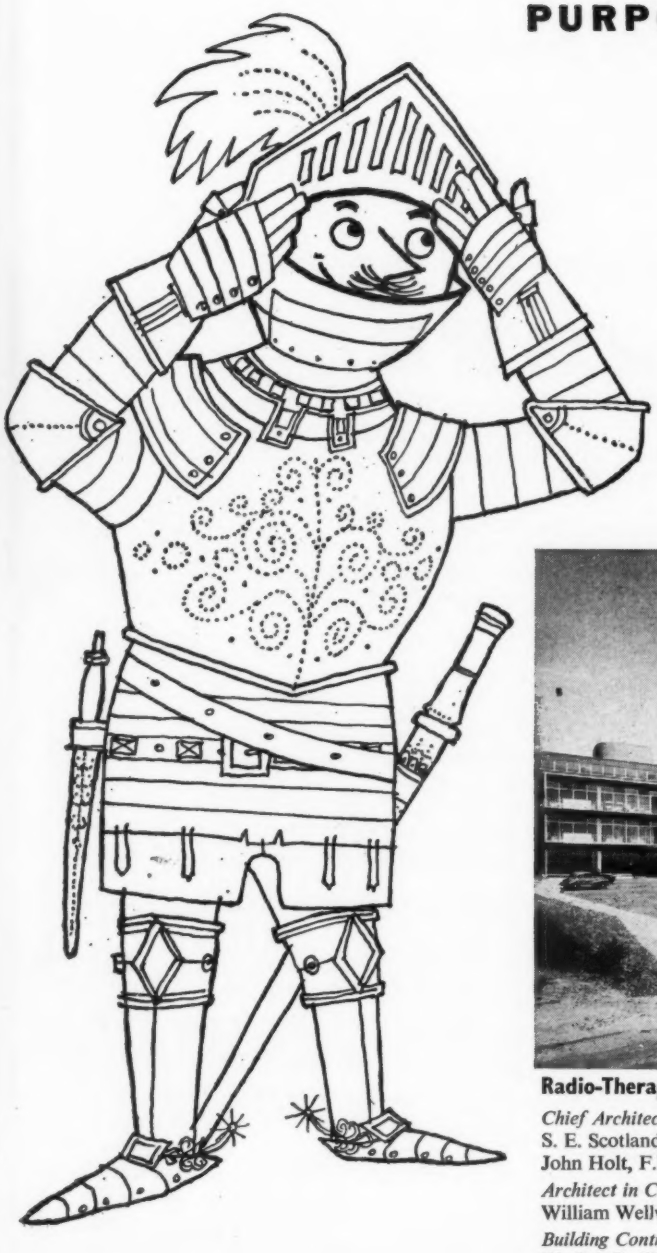
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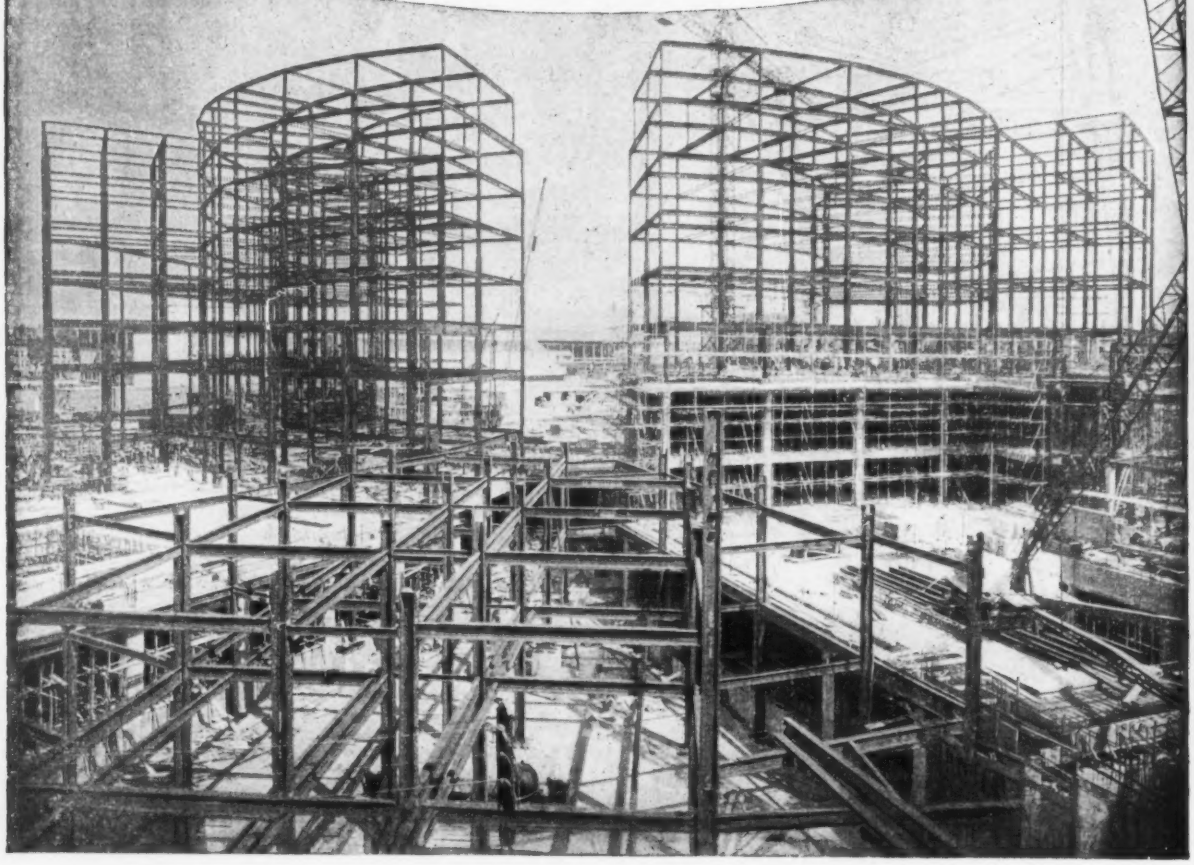
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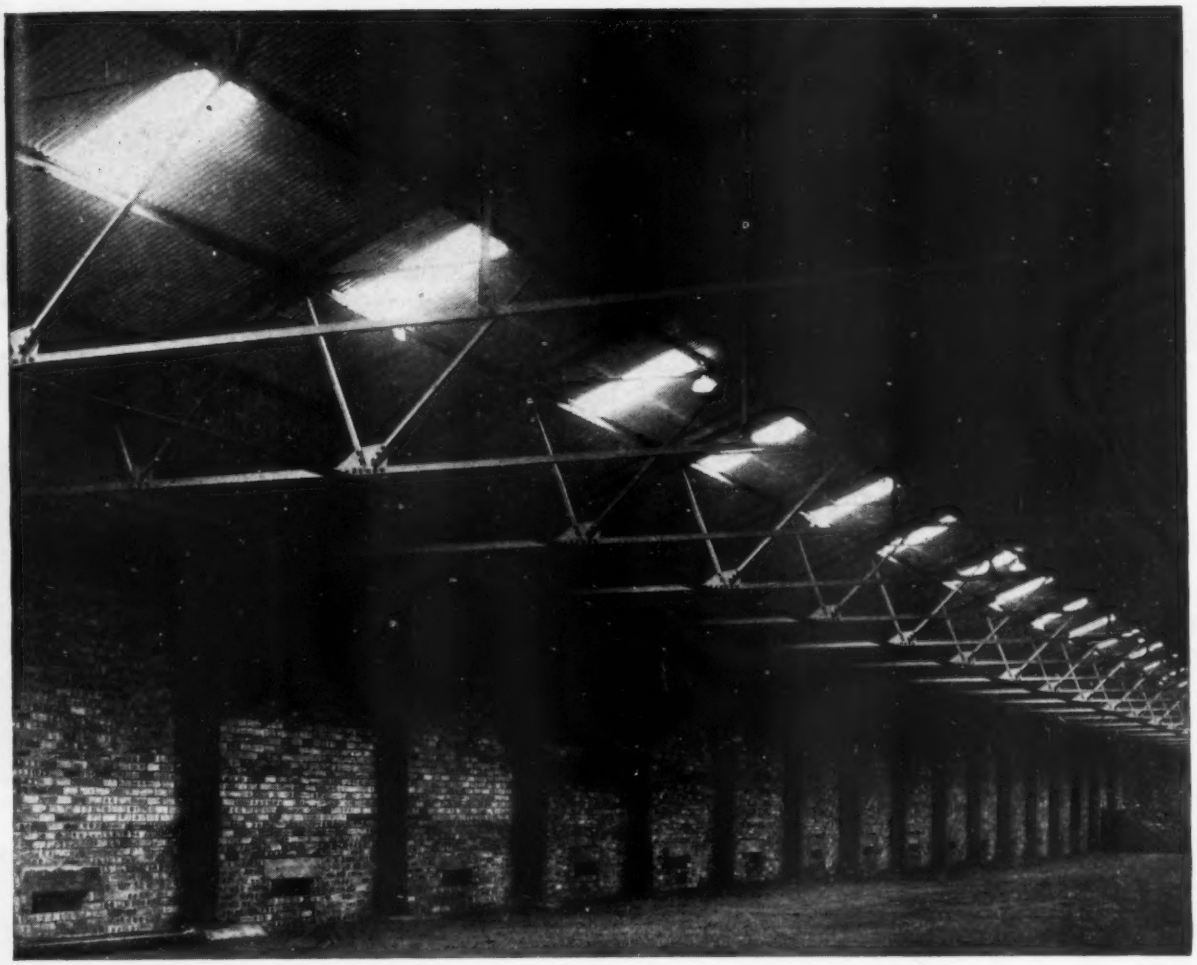
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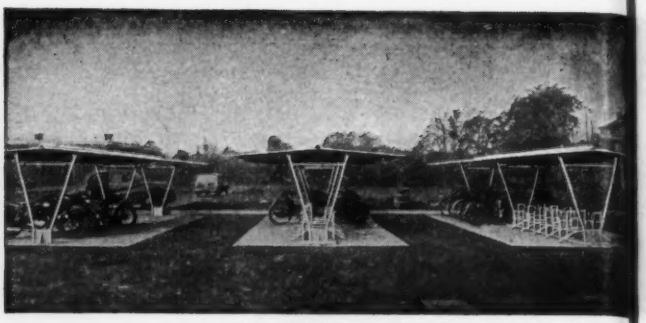
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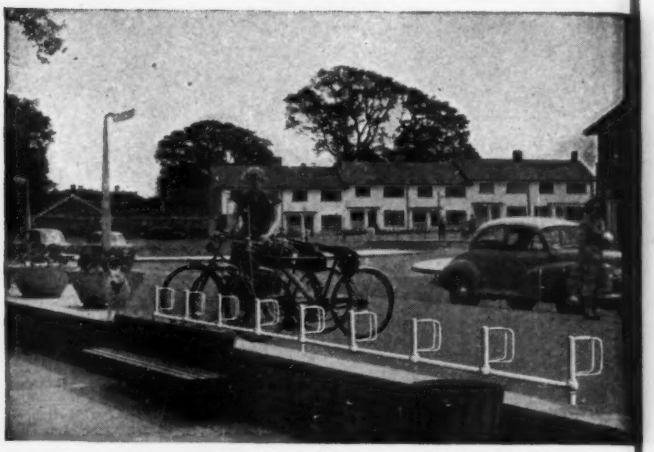
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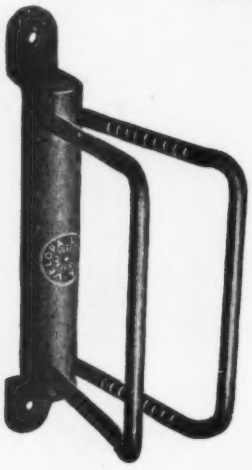
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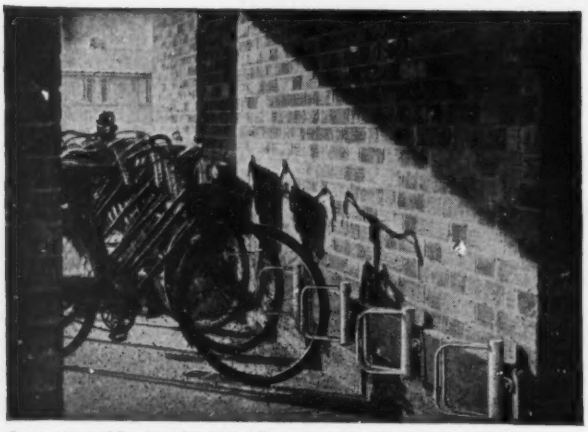


VelopA bicycle holders

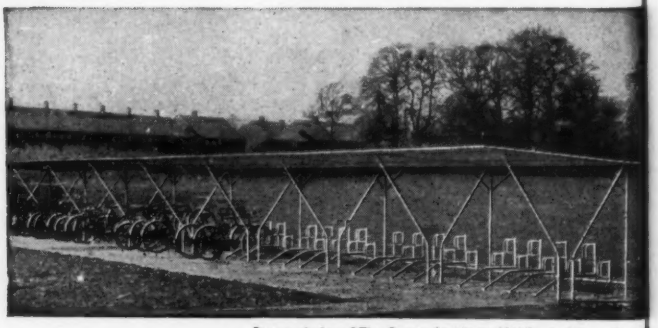
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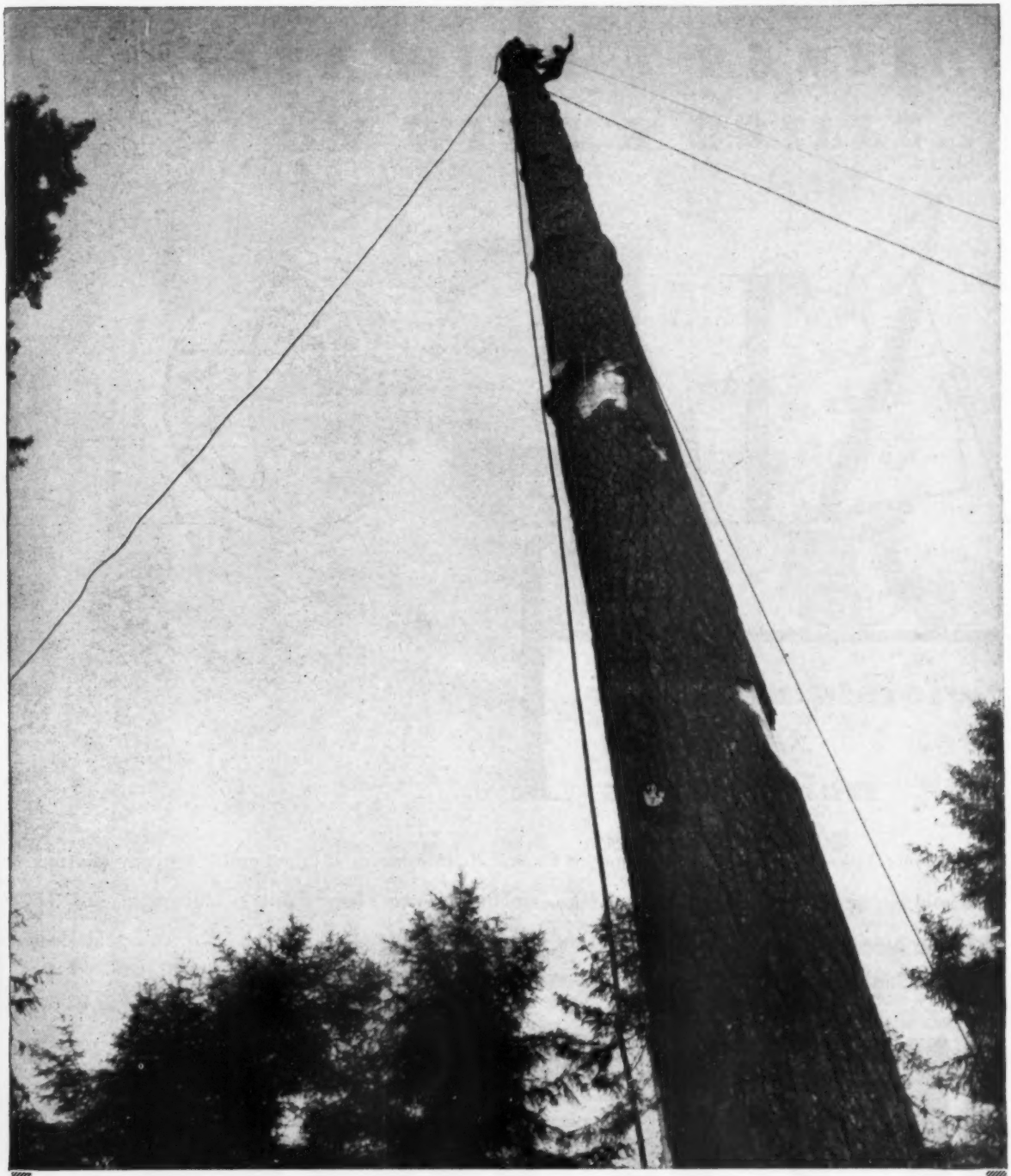
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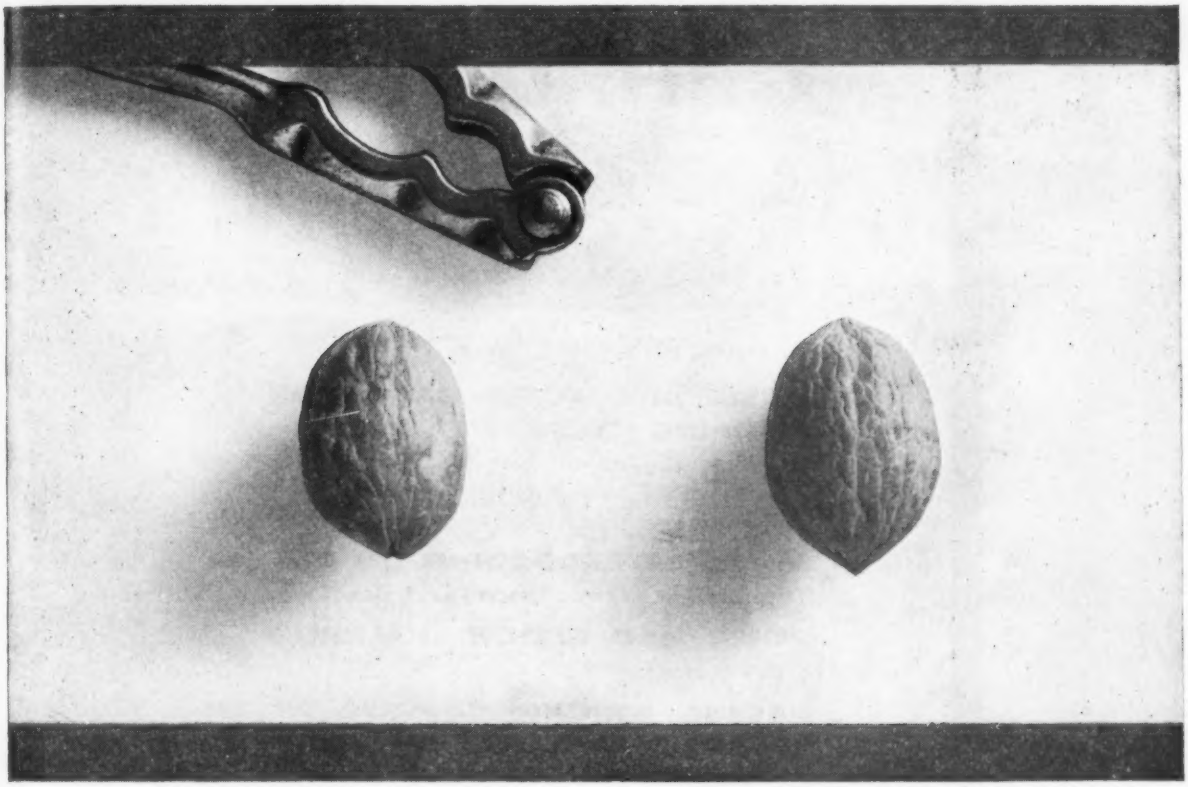
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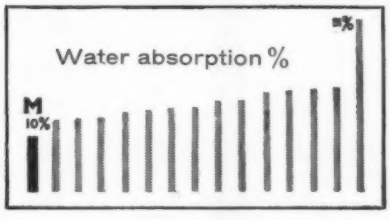
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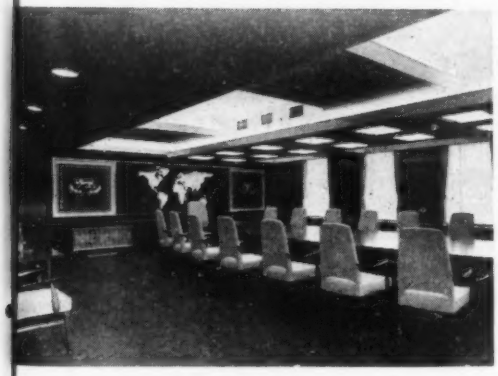
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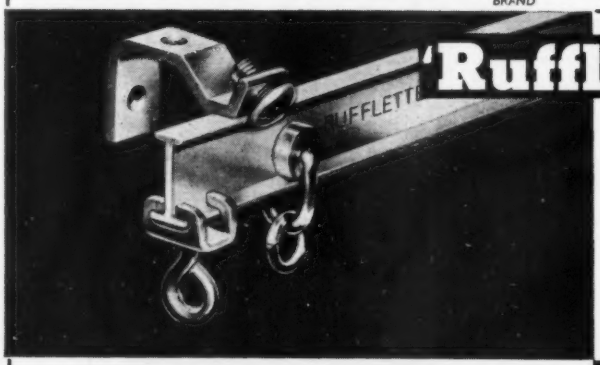
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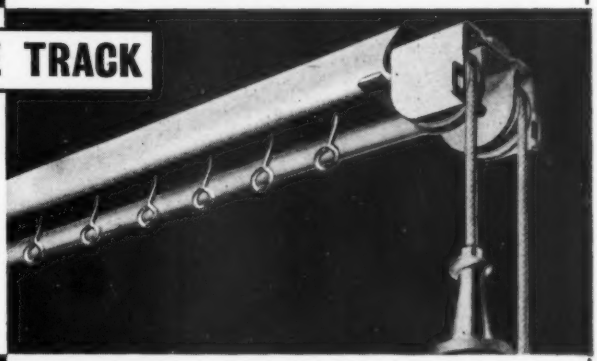


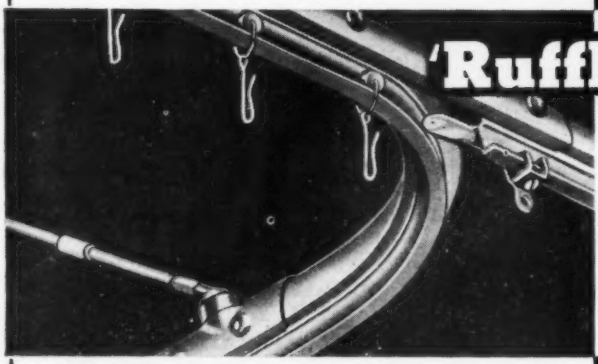
'Rufflette' BRAND CURTAIN TRACK

A strong, reliable curtain track made in brass or aluminium complete with all the necessary fittings. Specially designed fixing brackets enable the track to be locked rigidly in position by just a turn of a single front facing screw. Add to the track 'Rufflette' Brand Cord Control for straight or bay windows for the smoothest method of opening and closing curtains.

'Rufflette' BRAND DOUBLE TRACK

The new permanent cord-controlled track system with concealed mechanism. Nylon gliders ensure smooth and silent operation and the clean lines and smooth contour of the track fitted flush to the ceiling or lintel provides the neatest ever method of curtain suspension for private homes, schools, industrial and commercial installation.





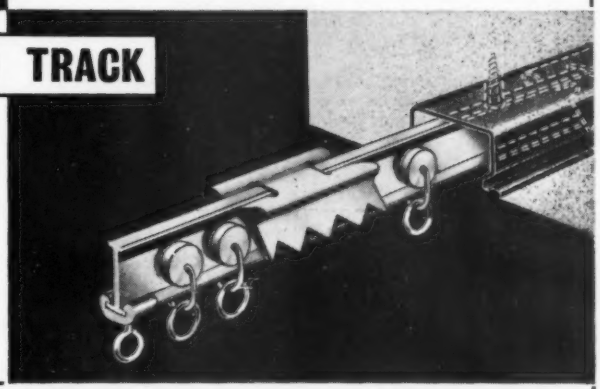
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'Rufflette' Brand cubicle track is one of the simplest and best curtain systems for space division. An ingenious method of suspension from wall or ceiling leaves floor space unobstructed, allowing the free movement of staff and equipment. Many leading authorities have specified cubicle track for installation in hospitals, clinics, schools, hotels, stores, hairdressing salons and aboard ship.

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'Rufflette' Brand Recessed Curtain Track is concealed, permanent, and an integral part of the building. A steel channel is fitted into the wood or concrete lintel above the window prior to plastering, and special spring clips fit on to the curtain track which is sprung into position in the channel. It is recommended for use in hotels, offices, hospitals, schools and flats where a permanent curtain suspension system is required.

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Leading Architect says . . .

We pick the locks a burglar can't



My partners and I have our offices in a largish block. Since a porter shuts the whole place up at night, we had never bothered much about possible burglaries.

As so often, the impossible went and happened: through some slight slip-up on the porter's part, a burglar got in. After picking our locks he lit a cigarette, had the safe open in seconds, and removed our cash.

Before he left—as easily as he had entered—our burglar dropped his cigarette end tidily into the drawing-office w.p.b. The plans that were burnt cost us, directly and indirectly, *twenty times* the value of the stolen cash.

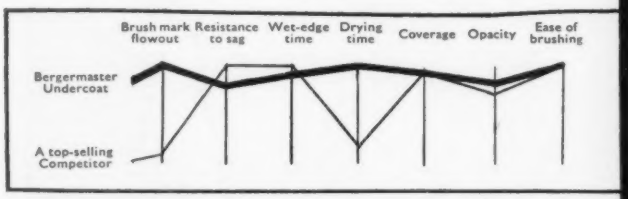
So we did what we ought to have done ages ago. We went to Chubb. We chose a handsome set of locks that the burglar can't pick or saw open. Our safe is proof against most knavish tricks and fire-resisting into the bargain, while our precious drawings now lie in a thoroughly practical fire cabinet.

Naturally, all our new clients hear the name of Chubb when we discuss security arrangements. It is a good name to have in mind if you have any worries on that score. The address is . . .

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How well does Bergermaster paint perform?

Better than the best of the rest. If that sounds like a facile bit of megalomaniac advertising chit-chat, look at the photos of undercoats and gloss alongside. These were arrived at during routine laboratory development tests against representative top-selling competitors. They weren't meant for publicity, but we'd be silly not to use them.



Our tests show, briefly, that Bergermaster has balanced seven conflicting but desirable paint characteristics. And that no one else has managed to do so to the same degree. The result is a tractable undercoat / gloss combination which produces an immaculate and durable finish. All other paints in the Bergermaster systems are of an equivalent standard, and the systems provide a finish for virtually every purpose.

Does it offer a better colour choice?

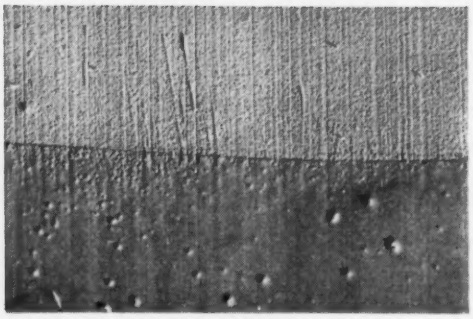
Yes. Bergermaster have the BS2660 101 range ready in stock of course, and a number of exclusive additional colours for 1960. For these, Bergermaster consulted a specialist who wasn't fresh out of art school with a thing about the Fauvists, and tempered his advice with their own research findings. We think the new colours are vital, subtle, *sympatico*, bold and right. Some of them have names of the Atoll Sunrise school, but this is a trivial irritation and their quality and function is unimpaired.

What sort of service do you get?

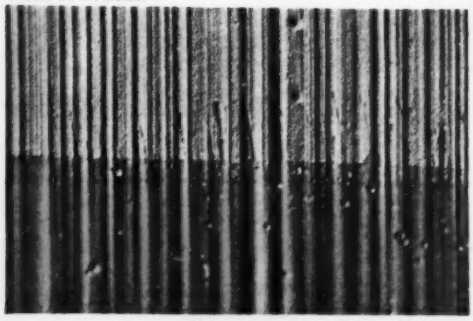
A good one, free consultation and assistance with specification to site. Architects who aim to mix white from two spare Bergermaster blacks can call the Architectural Service Department for a snap judgement on their prospects. Books of divisible colour specimens, specifications and the like are readily available; if you subscribe to the Barbour Index, you'll find the material there. Supply is now fast and dependable.

Bergermaster

complete paint systems for architects



PROOF BY PHOTOGRAPHY—these shots, highly magnified, are absolutely unretouched or rigged in any way. Random samples were painted onto identical test surfaces (vertical) with identical brushes under identical conditions. See how (above) Berger Undercoat goes on smoothly so that its top coat inherits no brushmarks, and neither coat suffers sagging. You get a first class finish, in contrast with, for example, that shown in the lower photo; a top-selling brand. Both show dust marks, inevitable when you magnify *without* retouching. Which we've done.



To: Architectural Service Department,
Berger Paints Ltd., Berger House, Berkeley Square, London, W.1.
(Scotland only) Berger Paints Ltd., 5 Park Gardens, Glasgow, C.3.

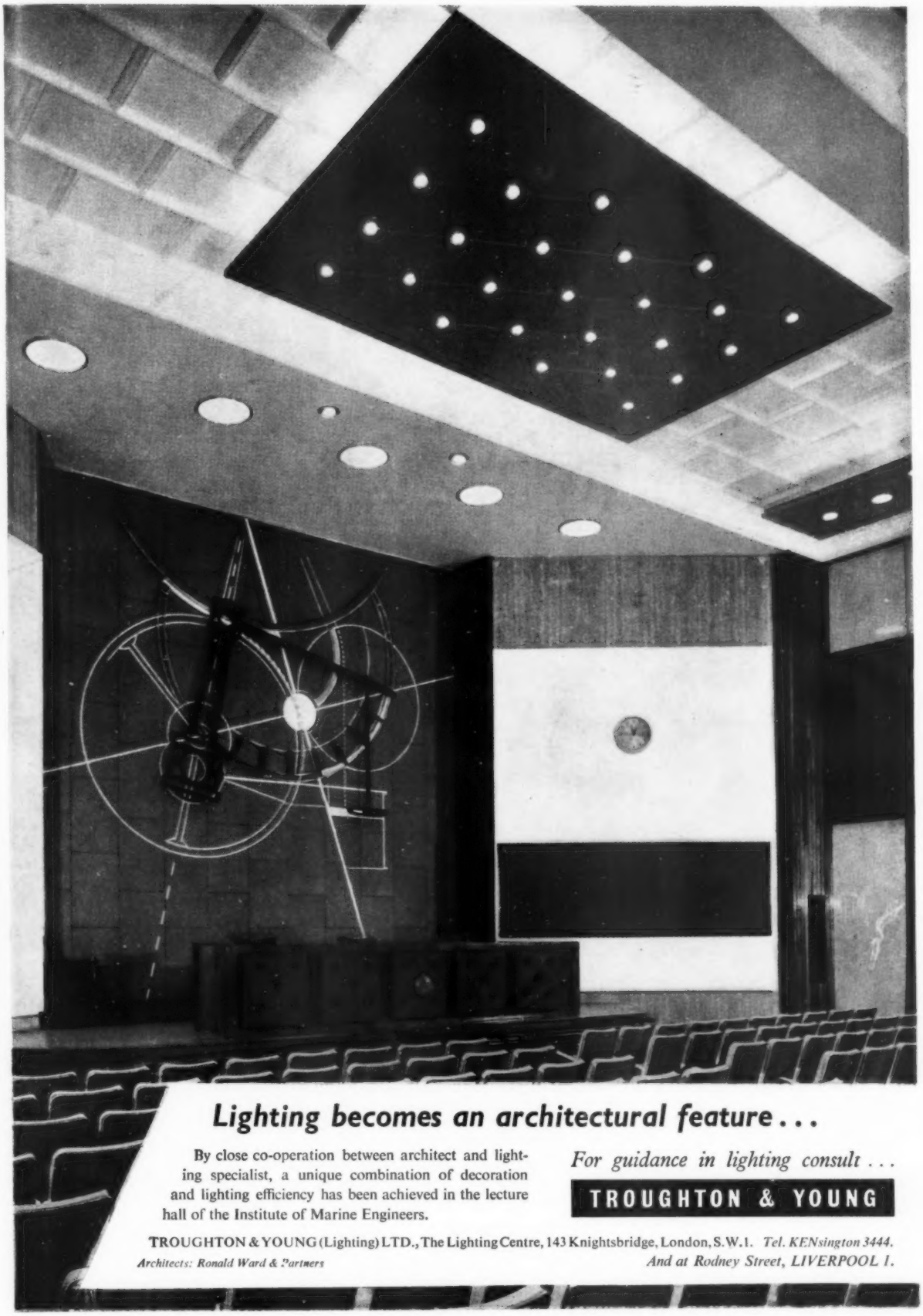
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() the wallet of 101 + exclusive colours

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Now available in a range of *House and Garden* colours.



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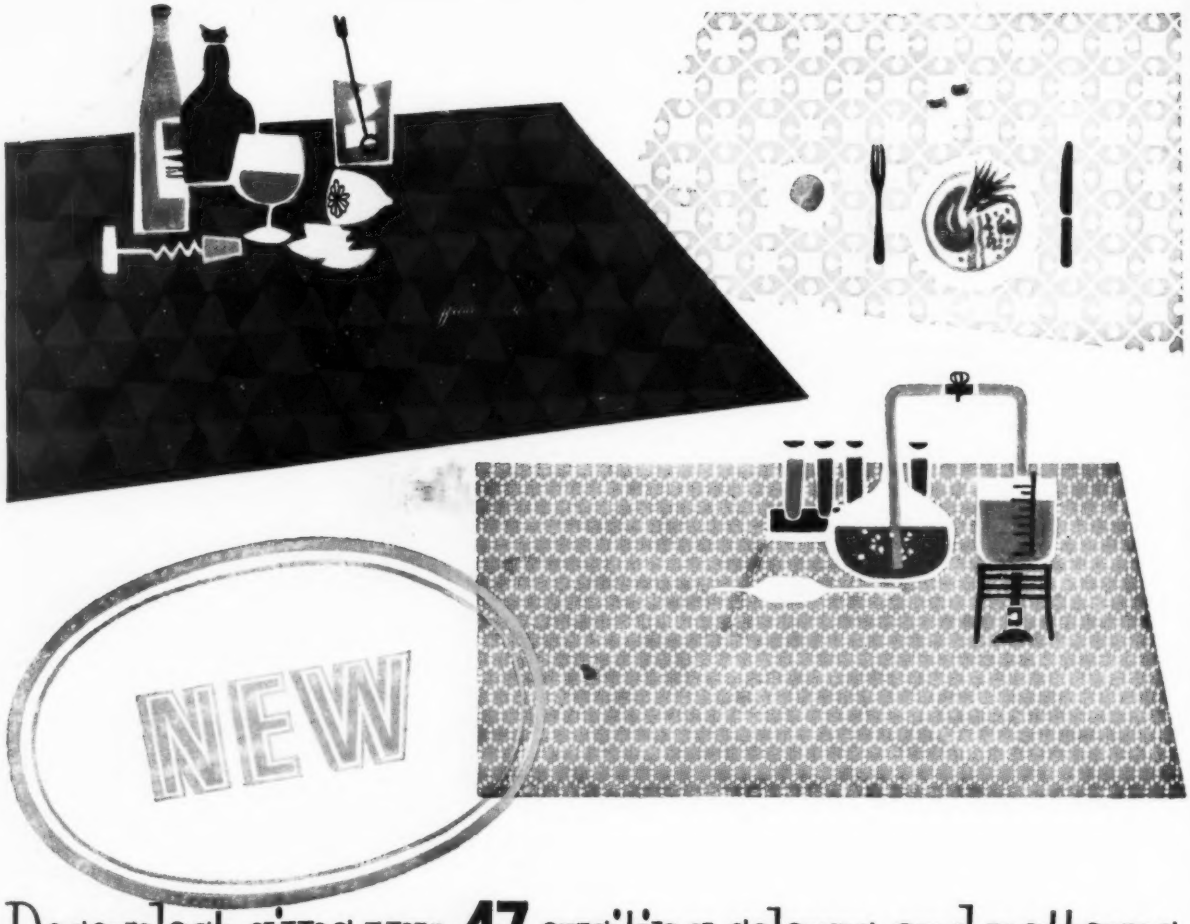
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Safety is nowadays a prime consideration in the design of all buildings, from the small bungalow to the most splendiferous hotel.

So a linoleum floor covering, correctly maintained, with its sure grip under foot, is the obvious choice. An agreeable choice too, for modern linoleum offers a wealth of colours, patterns and effects, to set off any chosen decorative scheme.

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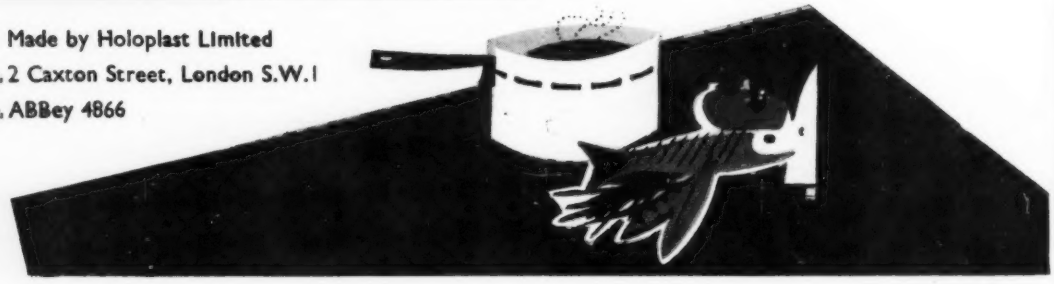
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And keep the temp. fast at divinity's norm.

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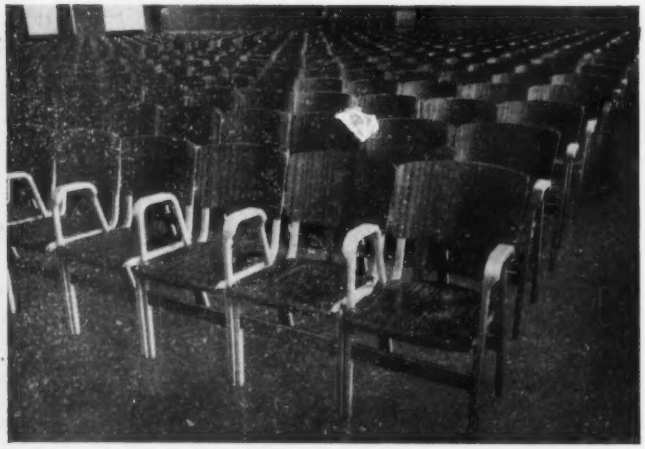
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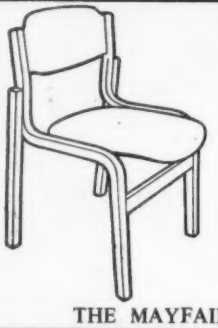
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Chairs

accommodation

AND STACK 20 HIGH TO GIVE THE MAXIMUM OPEN FLOOR SPACE

LAMINATED FOR STRENGTH

Built on laminated frames made of layer upon layer of beech bonded together under pressure, Tecta Stacking Chairs have less joints—always a chair's weakest point—therefore more strength. Designed to stand up to the most robust handling, the lamination process brings absolute protection against warp, dry rot or insect attack.

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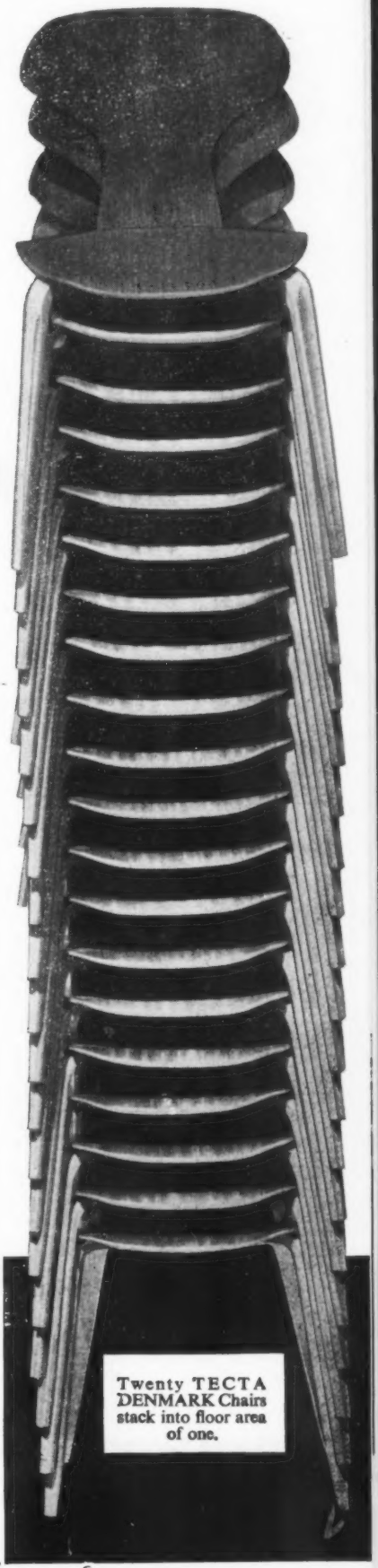
Tecta's laminated construction means no wasted weight. Easy-to-move Tecta chairs can be stacked 20 high.

STYLED FOR COMFORT

There's no uneasy shuffling from people seated in Tecta chairs : seats and backrests are styled for comfort. Many of the chairs are available part or fully upholstered with hardwearing washable plastic or leathercloth over a foam interior.

SEVEN BASIC DESIGNS TO CHOOSE FROM

Seven different styles of Tecta chairs are illustrated below, many of them approved by the Council of Industrial Design. They can be ordered in any quantity; and battening, bookrests and other accessories are available as extras. In mahogany, oak, walnut, elm or beech with a choice of seat and back veneers.





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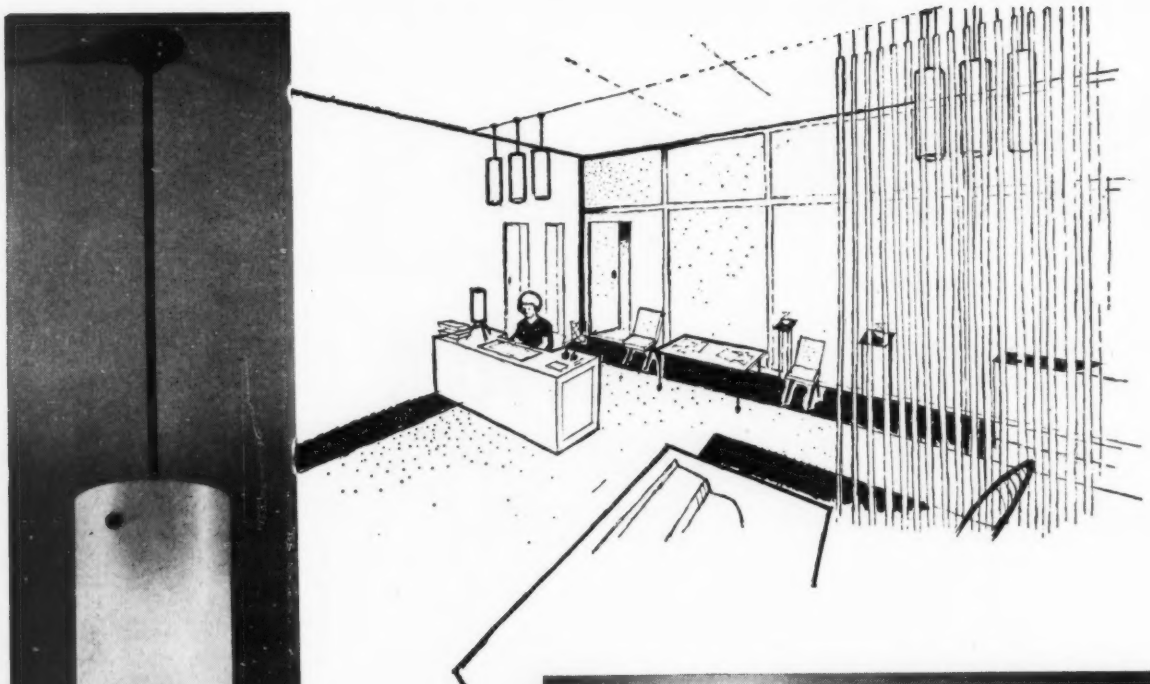


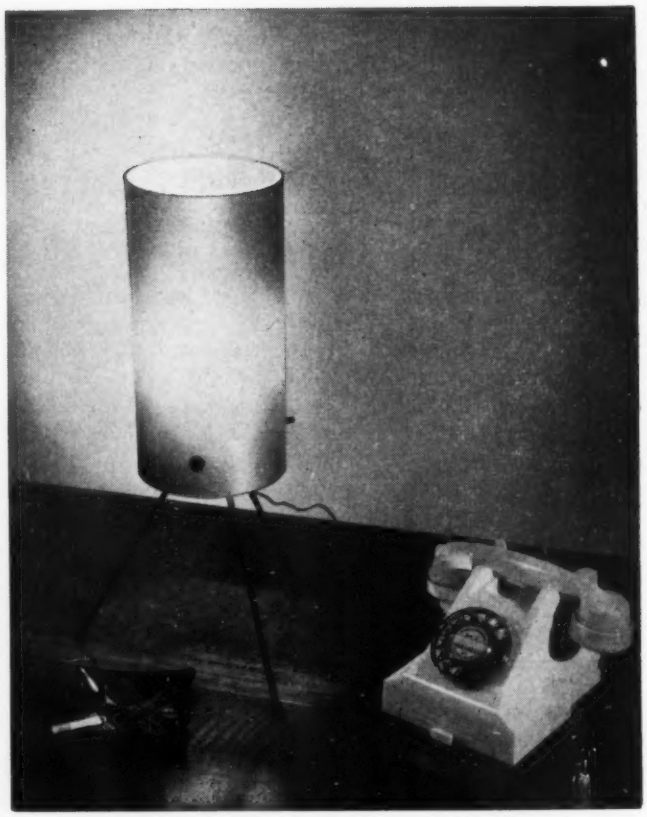
THE FOYER



THE SAVOY

Illustrating the full range to: Tecta Furniture Ltd., (Dept. A.J.3) 119 New Bond Street, London, W.1





This new Cylinder pendant fitting and table lamp has now been added to the Hailwood range, and is suitable for both domestic and commercial use. The glassware can be supplied in 3 ply opal, satin opal or green and white.

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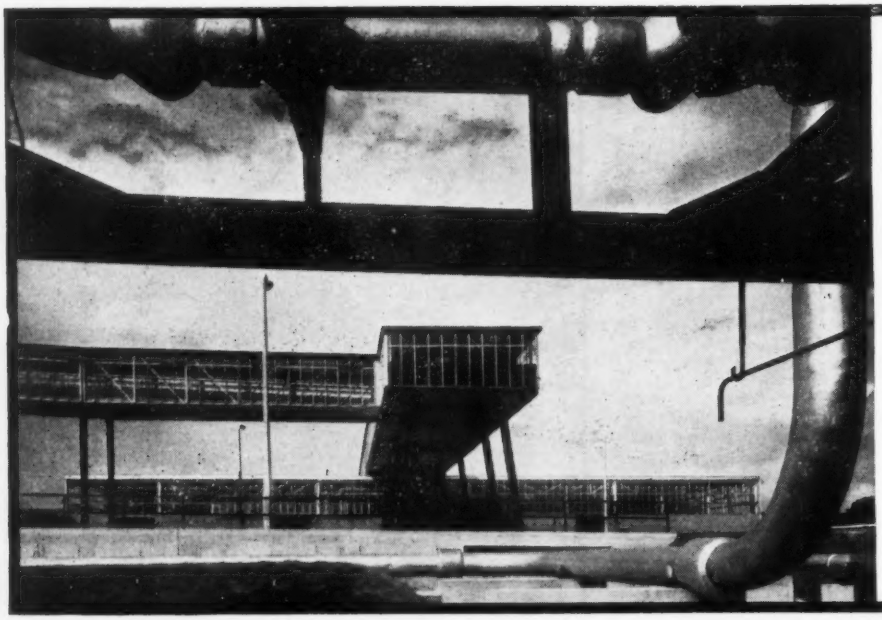
Would you face a wall like this? Well, hardly.
It looks impressive and functional enough as it is.
Naked and unashamed, it once served well
as a circular cannon bastion at the great
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patent glazing is like windows only BIGGER and often it's IN THE ROOF and it doesn't Have PUTTY



The new Heinz factory at Wigan is the largest factory to be built in Britain since the war. Shown here is the ancillary can factory, clad in Williams & Williams "Aluminex" vertical patent glazing. The continuous opening lights are gear-operated to give critical control of ventilation.

Architects:
J. Douglass Mathews and Partners, London in association with Skidmore, Owings and Merrill, New York.

The new Heinz factory is turning depressed Wigan into a boom area. By the time it is in full production it will be employing some 3,000 local people and taking up a good deal of the local agricultural produce, which is both abundant and high in quality.

The 127-acre site has a gradient of 1 in 40 which has been exploited to give the factory two working levels—both accessible to lorries.

Manufacture starts on the upper level with unloading, storage, preparation and cooking. Products are then gravity fed to the lower level for can filling, sterilization, packing, warehousing and finally dispatch.

The presence of old coal mines underneath the site meant careful positioning of the component buildings. The can factory is therefore at some distance from the food production unit



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the service gantry which takes finished cans across to the main factory for filling

and the covered footway connecting the two factories.

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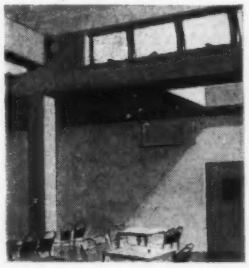
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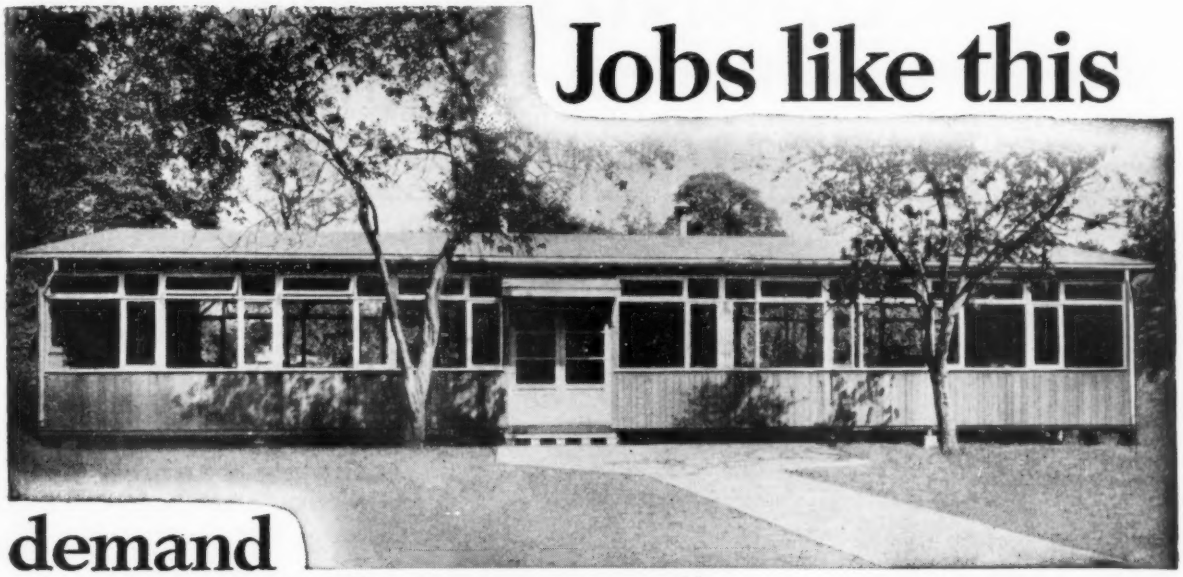
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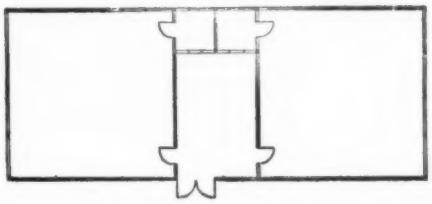
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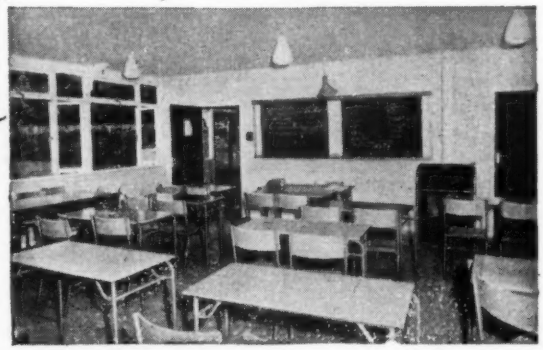


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FAIRFORD FARMOR'S SECONDARY MODERN SCHOOL near Cirencester, Glos.



Photographs by courtesy of the County Architect, Gloucestershire County Council.

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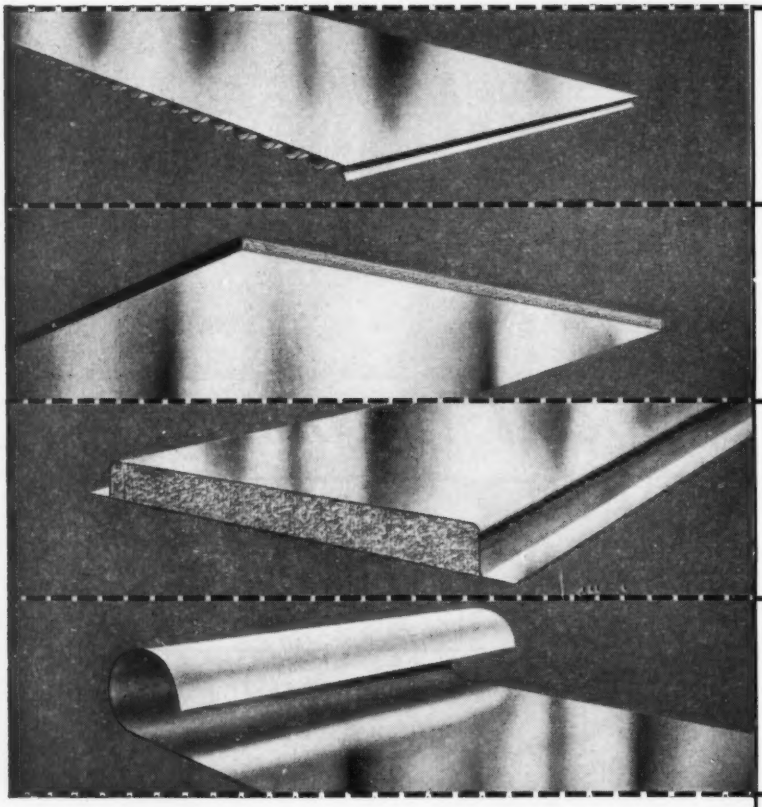
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** Curran vitreous enamel is a true glass surface fired at 860°C on steel; it is permanent, will not fade and is highly resistant to chemical attack.*

Seaporclad Infill Panels are also being manufactured and used in Australia, Austria, Belgium, Brazil, Canada, Chile, Denmark, France, Germany, Holland, Italy, Japan, Luxembourg, New Zealand, Norway, South Africa, Spain, Sweden, Switzerland, Turkey, United States of America.

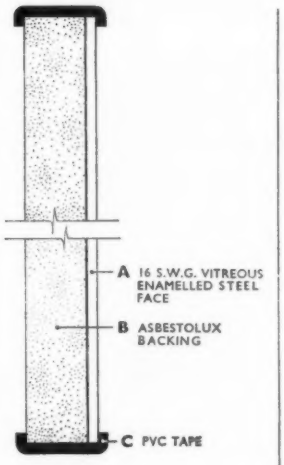


Colour: almost all colours of the British Standard 101 Range.

Finish: available in full gloss, matt and semi-matt.



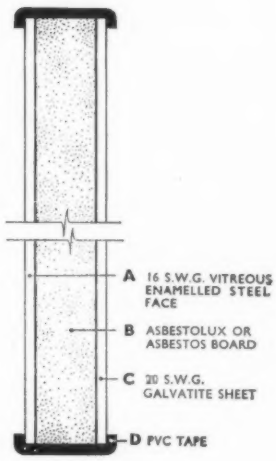
Texture: supplied stippled, marbled, etc.



TYPE 7

The face is a flat vitreous enamelled 16-gauge steel sheet, bonded with neoprene adhesive to an Asbestolux or asbestos board, ⅜″, ½″ or ¾″ thick. Panel edges are sealed all round with PVC tape.

'U' Value	Weight per sq. ft.	Panel Thickness	Core Thickness
.619	3 lb. 11¾ oz.	7/16″	⅜″
.503	4 lb. 1 oz.	9/16″	½″
.422	4 lb. 11½ oz.	11/16″	¾″



TYPE 5

is exactly the same as Type 7, except that the Asbestolux is backed up with a 20-gauge electro-galvanized steel sheet.

'U' value	Weight per sq. ft.	Panel Thickness	Core Thickness
.550	5 lb. 9 oz.	½″	⅜″
.500	6 lb. 0 oz.	⅝″	½″
.422	6 lb. 14 oz.	⅞″	¾″

THE NEW CYNTWELL SCHOOL, CARDIFF

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...in the new library at Sheffield University

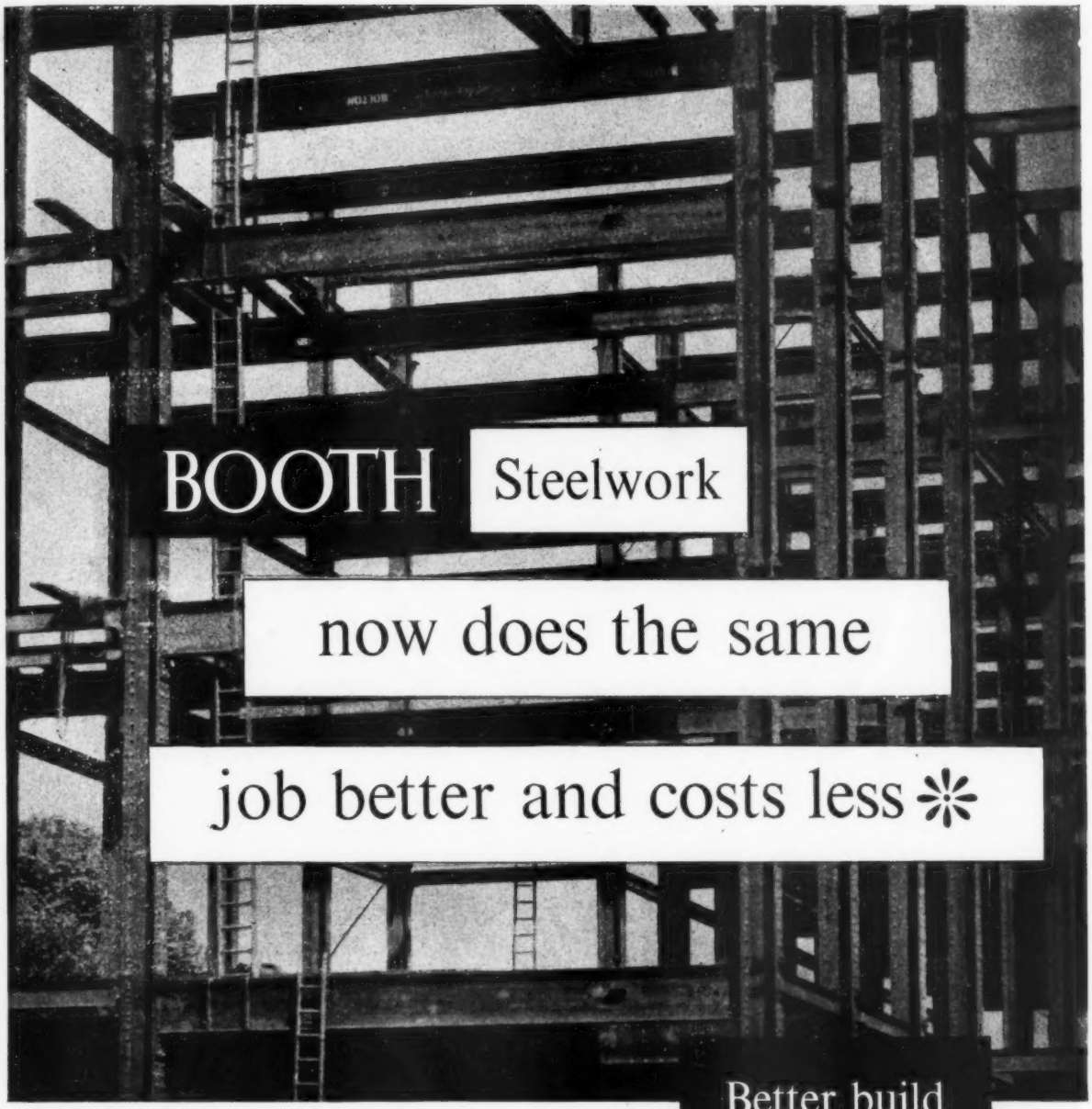
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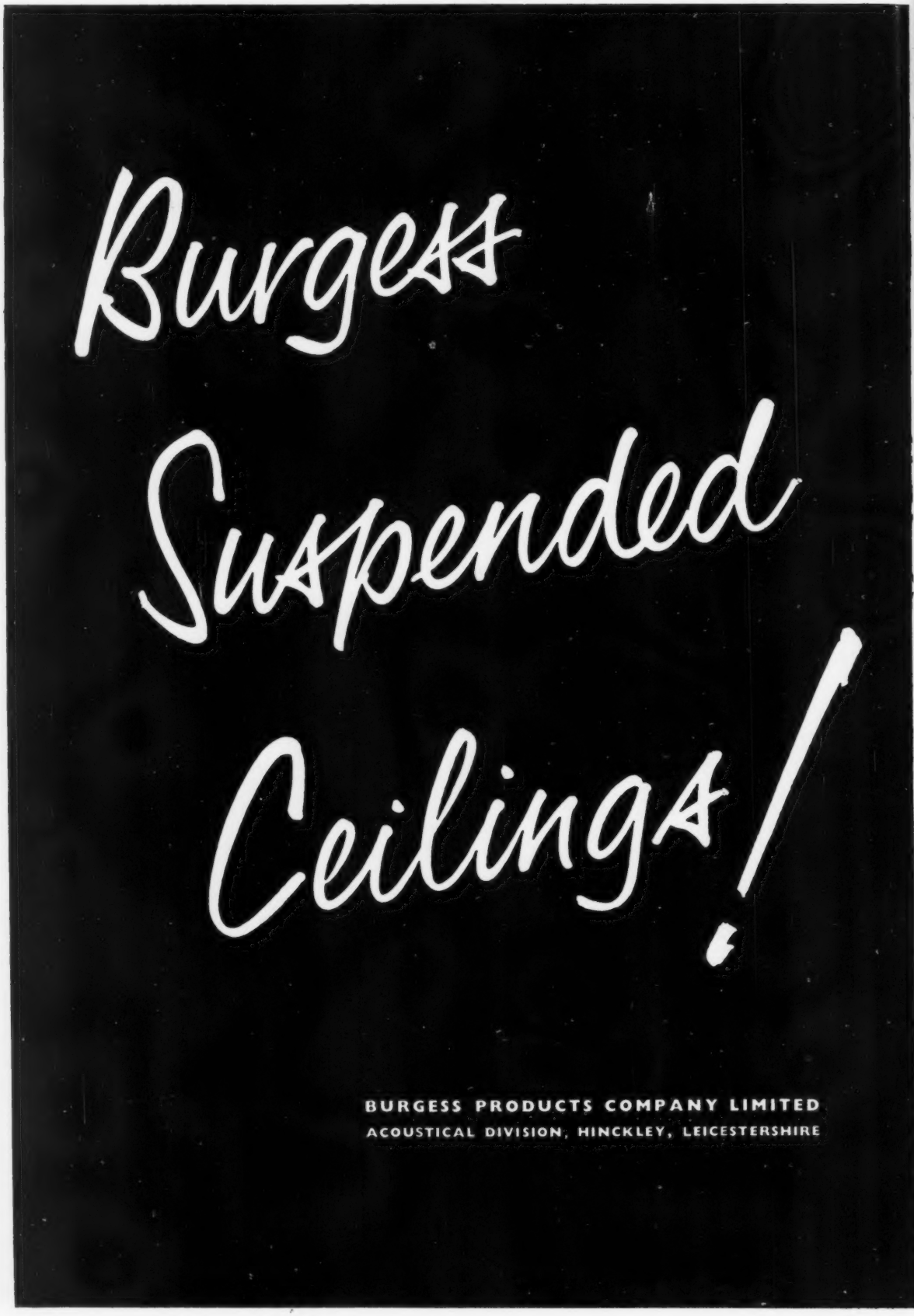
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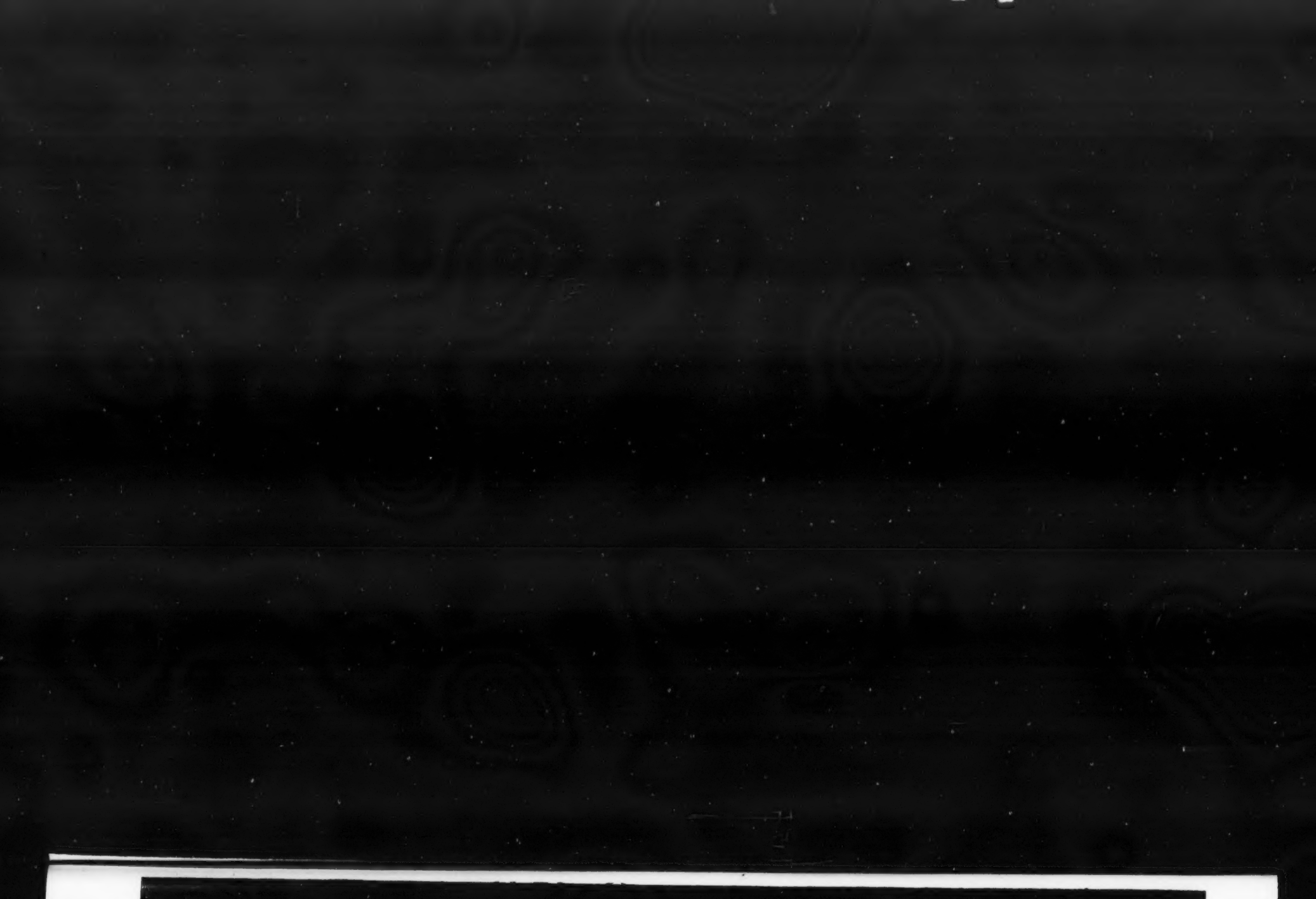


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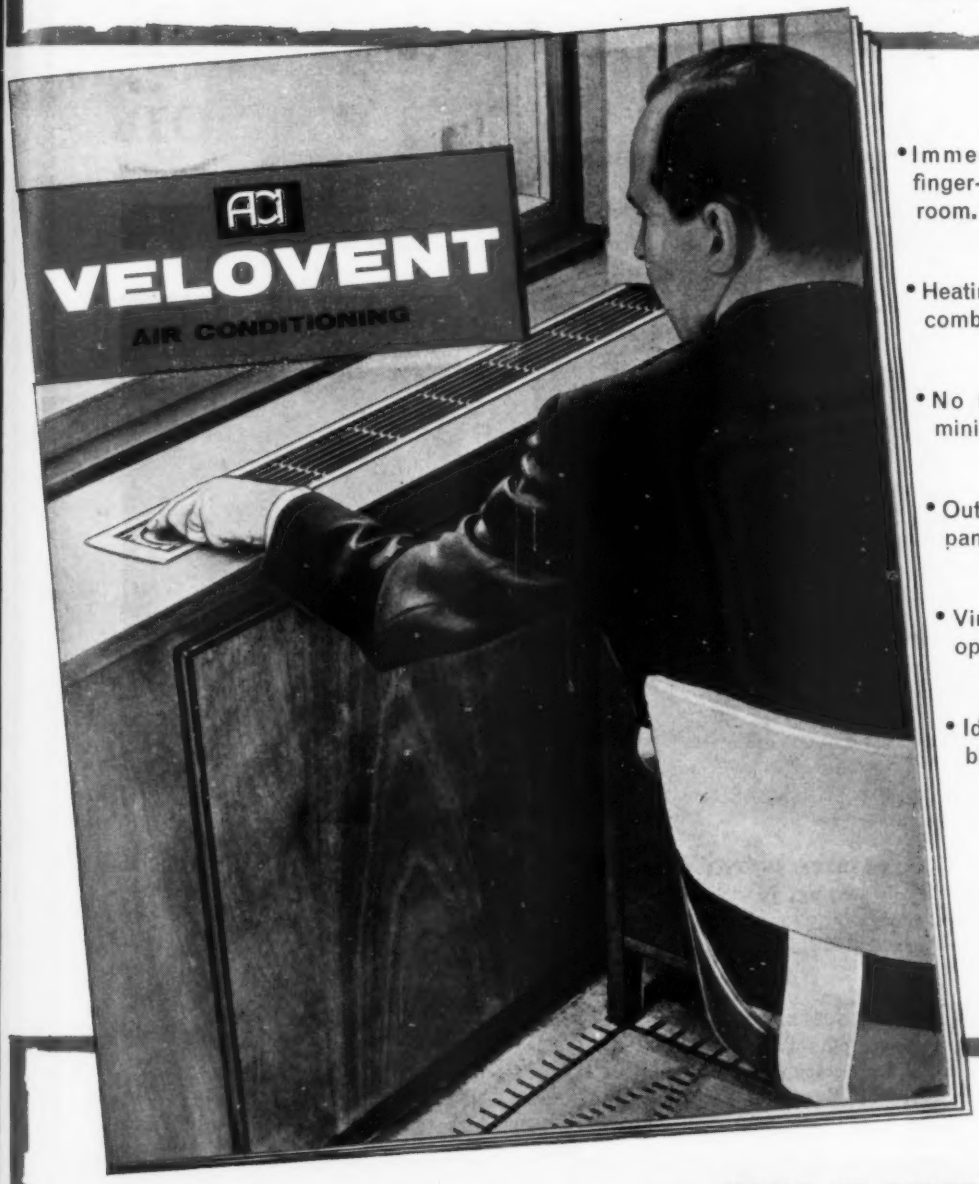
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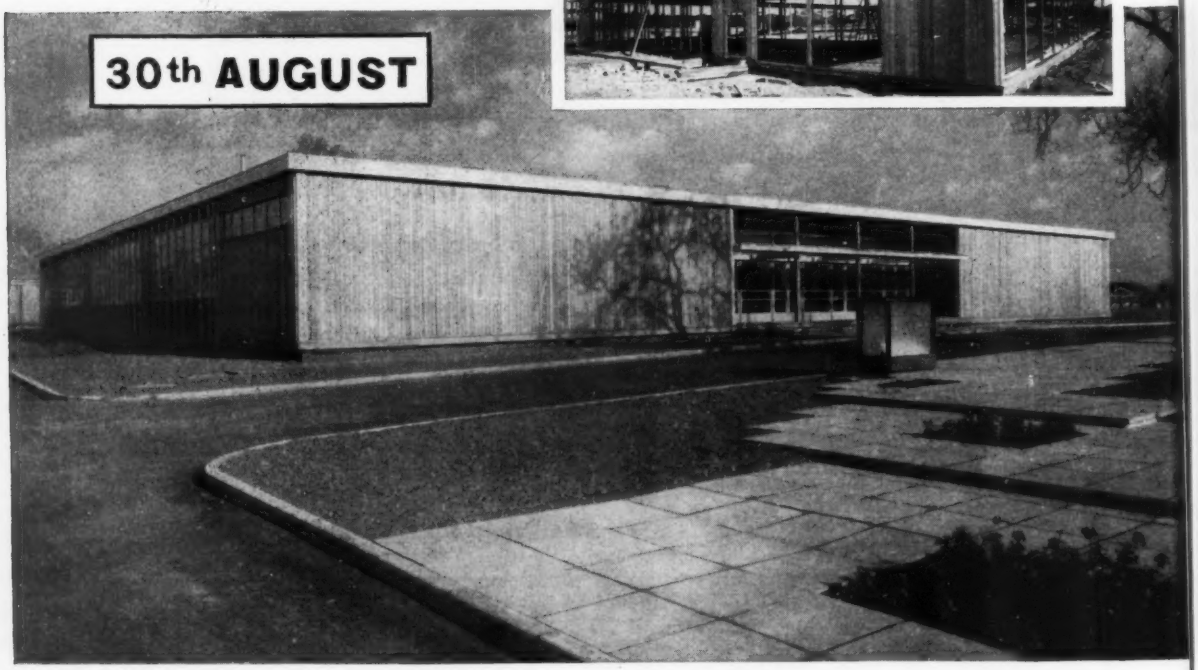
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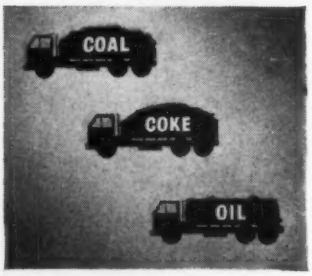
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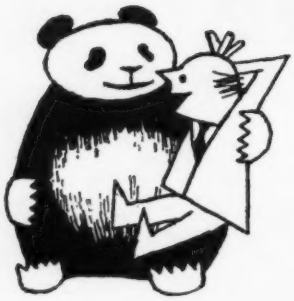
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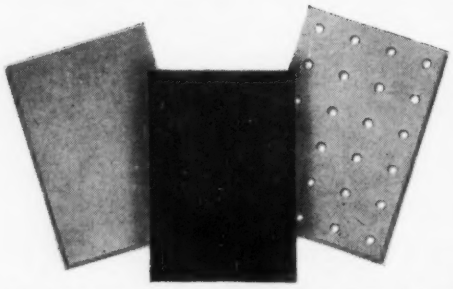
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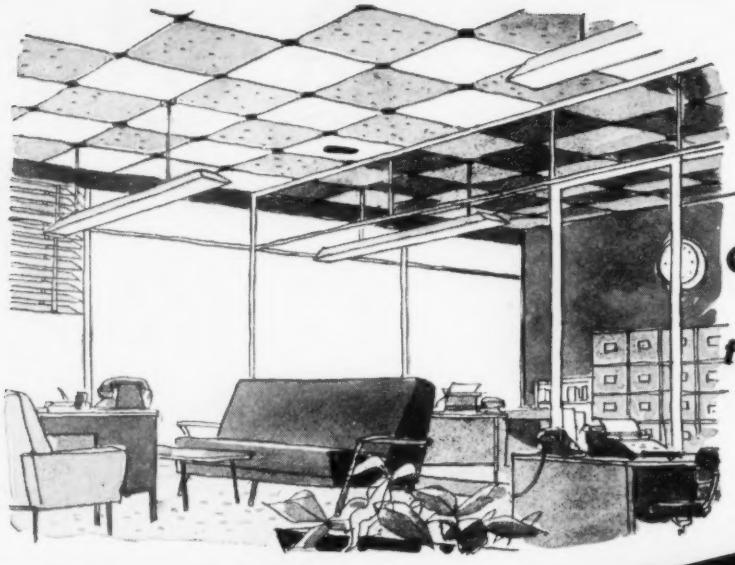


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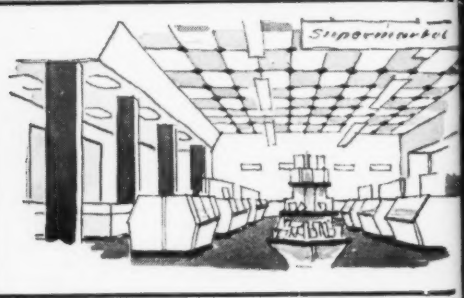
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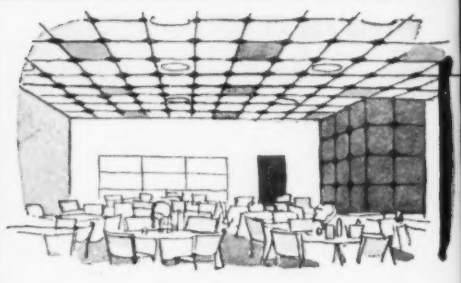
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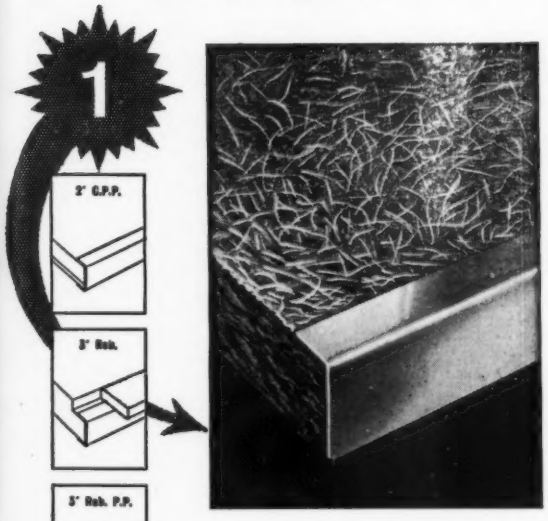
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The Architects' Journal

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Design By Default at Trafalgar Square?

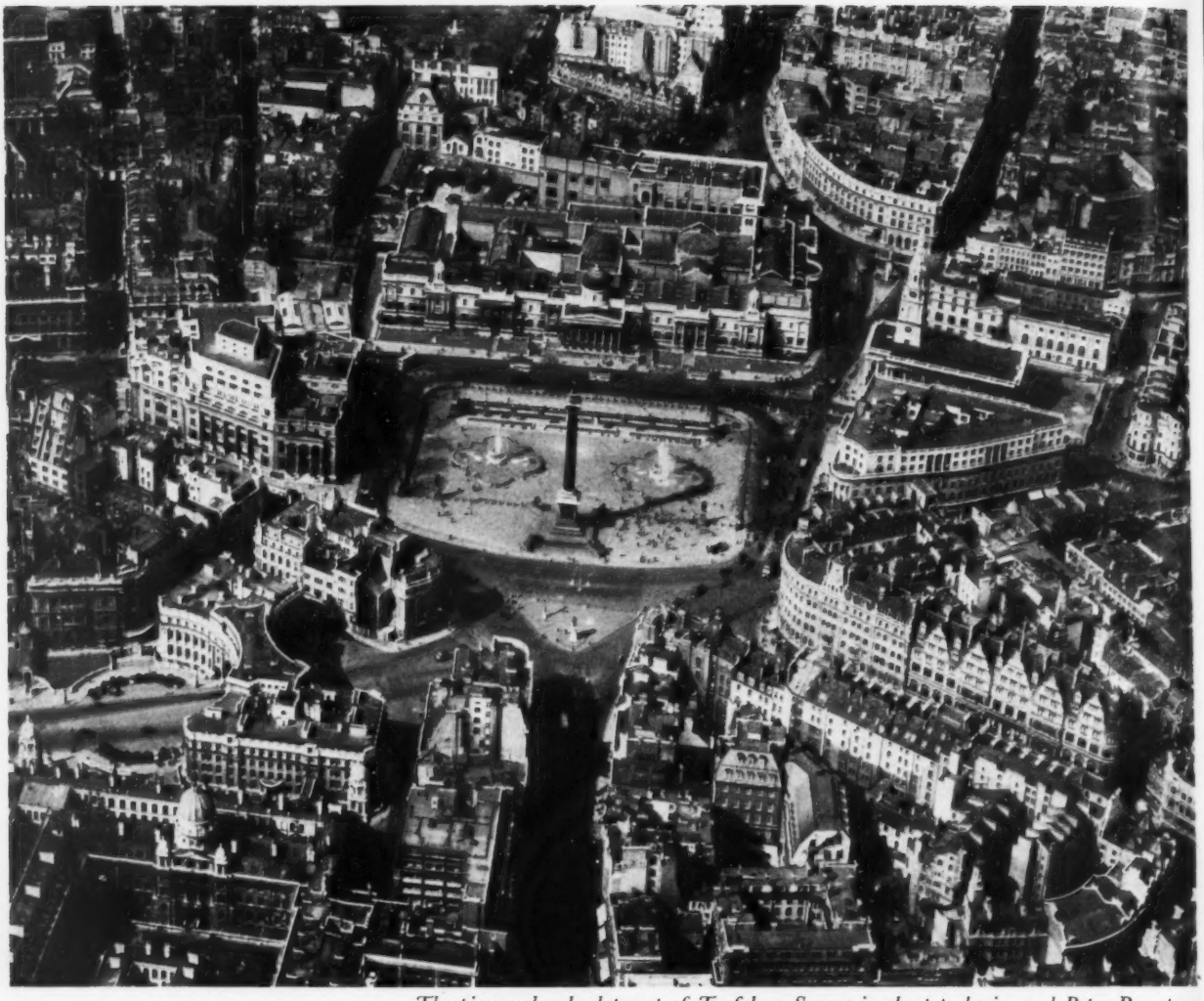
Do you know that "they" are likely to do the same to Trafalgar Square as "they" are trying to do to Piccadilly Circus? In the interests of commercial exploitation, another piece of non-profit-making London is going to be wrecked by piecemeal development and no-one in authority seems to be remotely disturbed.

Approval has been given for the demolition, in April, of the block of Georgian houses adjoining the north side of St. Martin's vicarage and their replacement by a new office building for Great Portland Estates Ltd. Designed by the London architects Fitzroy Robinson & Partners (consultants Sir Howard Robertson) it will roughly be the same height as the existing houses (4 and 5 floors) and is meant to line up, in elevation, if not in proportion, with the entablature of St. Martin's church. Its letting agents will be Basil & Howard Samuel. On the ground floor and running the whole length of William IV Street is to be a post office. There will be parking for a few cars.

It is not its standardized, competent and unadventurous design that is here at question. The fact is that new buildings are squeezing into the Square visually if not physically (Thorn House on the north and Peter Robinson's on the east) and there is no master plan for traffic, for pedestrians and for good architecture.

The awkward road junction at the base of Charing Cross Road is already a rush-hour nightmare. Yet no official plans are suggested to alleviate this and the new building is allowed to be placed on the same site as that which causes the narrow little William IV Street to restrict the traffic flow. On the purely aesthetic side there is the obvious destruction of the visual unity formed by the buildings in this corner of the Square which surround the Edith Cavell memorial.

Even a first-class design would be in difficulties here but when the whole purpose of the change is pure commercialism then *any* proposal is of dubious value. Put more simply in the words of the vicar of St. Martin's, the Rev. Austen Williams: "If new building is to happen at all could we



The piecemeal redevelopment of Trafalgar Square is about to begin, and Peter Rawstorne asks in the adjoining article whether the result is to be another Piccadilly Circus. Abercrombie in the 1943 County of London Plan proposed an enlarged roundabout at the Whitehall end of the Square, and a pedestrian terrace where the roadway now runs in front of the National Gallery. Similar ideas for rescuing the centre (the traditional place for national political demonstrations) from vehicular domination have recurred from time to time, most recently in K. Smigelski's prize-winning entry in the London Roads Competition. But at present it is not the subject of any comprehensive plan. The buildings on the north side of the block immediately above St. Martin-in-the-Fields may soon be demolished. *See also page 227.*

not have something that would at least acknowledge the Good the Church sets out to achieve? "

Deeply disturbed by the proposals, he said that the first he knew of them was when agreement had been reached between the developers and the Crown Estate Commissioners who own the land. This is another case of official indifference to public interest. Who then is at fault? The Ministries, the local authorities, the financiers or the public?

The answer is nobody and everybody. Everybody knew that something would happen someday but nobody bothered to find out, or to tell what they knew, once things started to move.

In an attempt at general enlightenment, this article is a survey of the present position effecting rebuilding the Square.

St. Martin's Place

The vicarage, the Vestry Hall and the St. Martin's National School were built as part of the Charing Cross Improvements Scheme in 1830 on land granted in perpetuity by George IV. Running west-east, in that order, from St. Martin's Place to Adelaide Street they are separated from the church by a macadamised playground. Listed as historical monuments they will be left as existing. The houses immediately adjoining to the north were listed as Grade III (provisional) by the MoW and although linked at the east and west ends, they are separated from the other buildings by an internal mews. These are to be demolished. The land is owned by the Crown who will retain freehold and is said to be worth £¼ million. Some residents still live in the upper floors of the houses but the ground floors have for many years been occupied by shops. Some are already empty and "Closing Sale" notices are up.

Charing Cross Station

British Railways propose to build a £1 million, same-height extension to the existing Charing Cross Hotel by demolishing the Craven Street block on the west side of the station piazza. This the LCC opposes in principle, maintaining, against criticism, that the station should be put underground or removed entirely. This would either mean a new tunnel beneath the Thames or extensive remodelling of London Bridge Station to serve as a new terminal. But British Railways say that to alter the three miles or so of high-level approach tracks from the south is too costly, and inconvenient for commuters.

They say also that Hungerford Bridge is good for at least another 60 or more years ("That means 100," said an official) so must stay. The LCC on the other hand see no reason why it could not be replaced by a road bridge between the Festival Hall and Waterloo Bridge and ending up somewhere in the middle of Northumberland Avenue.

Plans are also being considered for a pedestrian underpass beneath the Strand to carry rail-passengers below traffic level from the present station via escalators and a moving belt. It would possibly come up at the junction of Adelaide Street and the Strand. This plan is very vague and is an obvious compromise based on the assumption that the station is going to stay put.

Whitehall

The large blocks at the end of Whitehall and Northumberland Avenue are on privately owned land and as far as is known there are no redevelopment plans envisaged here in the immediate future, although they are obsolescent and clearly becoming ripe for early development. Nor are there any plans for redeveloping the South Africa House block which is on land leased from the Crown.

Admiralty Arch

A very different story applies to the sites north of Admiralty Arch. Apart from the Malaya House freehold site on the corner of The Mall, the Square and Cockspur Street, most of the potential redevelopment land stretching west to Carlton House Terrace is owned by the Crown. It has on it many different buildings and although nothing definite has yet been decided, an authoritative source disclosed that "its future is at present being decided at a very high level—possibly even Cabinet level."

Part of its possible future is the application by an undisclosed developer to put up a large office block, the same height as the Terrace, to designs by the London architects Howard Lobb & Partners. In spite of official denials that anything is happening, another reliable source disclosed that "building might take place within the next two or three years." The architects declined to comment.

The National Gallery

South-west of the National Gallery is Canada House which is guaranteed, by recent inter-governmental negotiations, to remain for many years. The same applies to the vacant "Hampton's" site alongside the Gallery. Purchased last year by the MoW to stop commercial exploitation, "nothing is likely to be built on it for the next 20 years."

About 18 months ago the LCC suggested a scheme for a pedestrian tunnel from Leicester Square down to the lower piazza level of Trafalgar Square. This was passed to the MoW for consideration. When I asked their chief architect, Eric Bedford, to comment he said the proposal was still being looked at. He also said that: "Any development for Trafalgar Square will take a number of years to evolve and any scheme as ambitious as this underpass will have to be considered as part of the general redevelopment of the area."

When I said that I knew of no master plan for the area he agreed that as far as he knew there was none. When I asked him if there was at least a traffic plan for the area, he replied: "The Ministry of Works takes a back seat in these traffic matters—we stick to buildings."

The extraordinary thing is that a new Trafalgar Square is evolving and is doing so without official control. If, as I found in making this survey, no one authority thinks that strong and adventurous leadership is necessary, just who is going to sort out the mess?

Or doesn't it matter?

PETER RAWSTORNE

The Editors

THE HOSPITAL PROGRAMME

IT is little short of a national disgrace that the building programme for hospitals has only now really got under way, and in fact this week, for the first time since the war, we publish a major hospital building. This hospital at Swindon is a brilliant design, as is to be expected from the firm of Powell and Moya. Its significance as a major step in the post-war development of hospital design is described on pages 261-272. The success of any building is to a large extent dependent on the advice and cooperation of the clients. In the case of Swindon Hospital the client's role has been exceptionally well executed. Unfortunately, however, this is unusual. Doctors and specialists, acutely conscious of the supreme importance of their job, can be unnecessarily dogmatic in their demands and by demanding too much may end by getting nothing.

Many hospital projects are now being designed but what is disturbing is the position in which the architect finds himself in making his contribution to the provision of new hospital beds in this country, and the modernization of outmoded and inadequate existing buildings. In the first place, the manner in which the client is organised creates great difficulties. The Ministry of Health appear to have little more than financial control. The true client is the Regional Hospital Board which organizes the building programmes in each of its areas. When the building is completed, it is handed over to a local management committee, who have, quite often, different views as to the requirements, and therefore there is the frequent complaint that they are getting a building which contains features which they do not want and lacks other facilities which they require. At the same time, the architect often has to deal with the individual doctors who will be in control of the various departments, and their requirements have to be compromised with those of the Regional Hospital Board. This is bad enough, but in addition one must bear in mind that there is often no clear or agreed brief upon which the design can be based, and therefore the architect is inevitably involved in working out the provision that is to be made in the building.

Financial control is also a problem, there being, as yet, no standard allowable capital expenditure, for instance on a bed basis, and therefore each scheme has to have individual Treasury approval before it can commence. There have been considerable delays in obtaining this; in some cases to obtain approval takes as long as four or five years, this delay being due to the complexity of the problem and to the ridiculously small annual expenditure allocated, which makes decision-taking agonisingly difficult. Under these circumstances the architect is faced with a continuously fluid situation of changing requirements and uncertainties as to whether his design will be accepted from a financial point of view. In one case, at least, a current contract has had to be completely suspended

because the various sectors of the client cannot agree as to what shall be provided in the building. This is the ironical outcome of the extremely rapid advances of medical science which can change requirements faster than building programmes can be set in motion. The inevitable result is that the country is going to get its new hospitals far more slowly and expensively than would be the case if there were a clear procedure and a clear brief parallel to that developed some years ago for schools. It is obvious that an uphill struggle faces the new architect to the Ministry of Health, William Tatton Brown. Most of these problems are constitutional and medical, and quite outside the architect's control. He can, however, point out the difficulties created for the profession by them. One encouraging fact is the proposed course (coupled with an exhibition of new hospital design) for architects on July 11 to 15, organised by the Ministry of Health and the Regional Hospital Boards, to give architects background information on the health service, types of hospital treatment, the different hospital users, the authorities concerned with approving hospital designs and the latest research into hospital planning. Perhaps the working out of the lectures for this course will pin-point and emphasize the weakness in the present design procedure.



THE HIGHER THE MORE

Last Thursday I complained about salaries in the LCC Planning Division. On the same day increases were, in fact, announced for senior officers. The Architect gets another £500 a year (£5,750); the deputy gets £3,575-£4,075 (increase of £325), and the heads of the schools, housing and planning divisions go up by £250 to £2,700-£2,900.

*

I have two comments. One is that a lot of architects and planners doing immensely responsible work lower down the scale will presumably be given increases, though smaller ones. The other is that for about two years the LCC has ignored the independent professional claim. I can't really believe the administrative officer in the Architect's department is more valuable than the senior planning officer, or the housing and schools architects.

MR. PROSSER PRESIDES

The new president of the NFBTE, T. V. Prosser, is pleased that local authorities are now building fewer houses than the spec. builder. He said so in his presidential address, when he also spoke of the need for more housing land and for the industry to be free from government interference. He repeated himself at the Federation's dinner, where Sir John Hope, Minister of Works, referred to the builders' dance to government policy as "slow, slow, quick, quick, slow." Sir Henry Pilkington said that this eccentric dance was even worse for the supplier and manufacturer than the builder, because their labour and capital were less flexible.

*

Everyone will agree that an assured flow of work is essential. But not only to the private builder. Whatever Mr. Prosser thinks, the local authority offices have produced a higher standard of architecture than the spec. builders. They deserve more scope, because the housing shortage in many cities is causing a lot of suffering and private enterprise cannot possibly provide unsubsidized houses of good quality at rents that lower-paid workers can afford.

*

Incidentally, *The Observer* is suffering from split personality on this subject. Its Economic Editor urges the case for "moderating the housing boom" by postponing some building: the Editor, in "Comment," urges the restoration of the housing subsidies because five million people are waiting for council houses. I hope the Editor sees to it that his own views prevail.

ANOTHER "SHALT NOT"

The Federation, by the way, have just brightened up their journal, the *National Builder*. Congratulations to the editor: and to the RIBA for the forthcoming change (in May) in their journal, which has been redesigned by Herbert Spencer. Another change is the Architects' Registration Council's new-style, easy-to-read "Code of Professional Conduct." This contains the ninth and last principle that "an architect may not enter into partnership . . . with anyone who is disqualified for registration." Good. But how many of you know that the first principle is merely "an architect must faithfully discharge his responsibilities to his client." Shouldn't the code contain more positive injunctions?

STRAPHANGERS ON 14-INCH TUBE

Last week Granada TV turned its *Searchlight* programme on to the Piccadilly story and used it as a lead-in to a discussion on city planning, which included an interview with Lionel Brett, chairman of SPUR. Also interviewed were Peter Chamberlin, Percy Johnson-Marshall and a developer (a Mr. Flack) who indicated that a twenty per cent return on his outlay was not enough to induce him to go on developing. (When *will* there be a scale fee for

developers?) Best of all were the interviews with the straphanging public at Oxford Circus tube station who were almost unanimous in wanting to live nearer their work. Who can doubt, after this, that architecture and planning make effective television?

MOAT IN WHOSE EYE?

The Rev. "Tubby" Clayton, who has been preaching sermons against the LCC's plan for the Tower Hill area (where he is vicar of All Hallows), is also leader of the opposition to the plan. He says the scheme will obstruct the view of his church from the drawbridge of the Tower. But it will also obstruct the view of Tower Bridge from his own flat. I hope it isn't this that's really bothering him, though it does seem odd that the Awful Warning perspective published in the *Sunday Times* showed how his private view of the Tower Bridge would be blocked.

*

Incidentally, it was nonsense for the *Daily Telegraph* to compare the Tower Hill plan with Piccadilly Circus. The LCC has achieved what it failed to achieve in Piccadilly—a really good, comprehensive scheme.

FESTIVAL OF NORTH BRITAIN

If you live in the south you may think Newcastle is a dull, industrious, philistine mess crammed with solidly conservative (if not politically) Geordies. How disconcerting, then, to hear that a city councillor wants a 1961 exhibition (with Sir Hugh Casson as organizer) to show everyone—and especially the Free Trade area—that Newcastle is the north-east's centre of culture, intellect and industrial development. He hopes the exhibition (with a rumoured shoe-string budget of £100,000) will give local architects, builders and developers the chance to prove they can compete with the best in London. It would do a good job if it merely showed Tyneside what it is missing.

REFORM WANTED

Philip Powell, who described himself (architecturally speaking) as "the poor man's Hugh Casson," did his crit of RIBA competitors for studentships and prizes with more kindly humour than some of his predecessors. And Basil Spence improved the occasion by refusing to deliver the customary presidential address. I was amused by the competitor who submitted information about the circumcision rites of the Macedonian gypsies, and by the winner of the Hunt Bursary, who is to do a 24½ day tour of Europe (what's the odd half for?) to study motor vehicles in towns. But I was reminded how much a reform is needed in this prize system. The essay prizes seem to be dying out because there aren't enough suitable entries. Working drawings are (to quote Mr. Powell) "a huge waste of energy." And it seems crazy that 108 students should design an opera house for a 16th century Italian gentleman (Tite: £100) while only 3 have a go at the Hunt Bursary for town planning (£95). Clearly the prizes offered are not encouraging the best entries and promoting good architecture. But what is the alternative? Any suggestions?



These buildings at the rear of St. Martin's Place, off Trafalgar Square, are to be demolished, setting in train what may become a substantial redevelopment of the Square. See "Design by Default at Trafalgar Square?" on page 223.

CONSULTANT EXHIBITS

F. H. K. Henrion is the only really big figure to emerge in British commercial design since the late McKnight Kauffer (neither of them, of course, British by origin). The ICA's bright, stimulating show is a reminder that he has done a lot of work in three dimensions, not just two like many of his contemporaries. A catalogue running to eighty-four large pages, which is nearly as good as the exhibition, includes a claim that will, I hope, be noted by historians of taste—that the real inventor of those boxed-in, squared-off, reformed sewing machines we unthinkingly praise as examples of the originality of Italian design was Henrion. The job was done, if you remember, in the *Britain Can Make It* exhibition of 1946. Any questions down there in Milan?

THE IMPORT OF ERNESTO

Speaking of Milan, it was good to see that personification of the *gusto Milanese*, Ernesto Rogers, in London the other day. He was over here to talk about the design of a lavish interior he is to design and have made up in Italy. It will be shipped over here and installed in—you'll never guess—Sir Howard Robertson's Shell building on the South Bank.

UNQUALIFIED SUCCESS

Do *you* find life an uphill struggle? Here's an encouraging extract from the *Bristol Evening Post*. "Inside three years the post of chief architect fell vacant and Mr. X (engineer) stepped up to the top . . . Next stage was to qualify as an Associate of the RIBA."

RIBA APPOINTMENT

The RIBA have appointed a chief information officer (a dreary title) with "overall responsibility for external relations (Press; publications, public relations), and internal relations (*RIBA Journal;* liaison with Allied Societies and the membership)." In other words he is to continue the work Gordon Ricketts, the present secretary, was appointed to do some years ago, with a number of fairly exacting extra duties.

*

Luckily the man appointed for this somewhat Gilbertian job has an almost abnormal amount of energy and enthusiasm. He is Malcolm MacEwen, the present assistant editor of the AJ. A lawyer by training, he has been a journalist for the past seventeen years, for three of which he has been on the JOURNAL staff. He has long been interested in architecture and planning, and being married to a senior architect-planner of the LCC his knowledge, though necessarily theoretical, is not unrealistic, and his article in the special issue of the JOURNAL titled Motropolis shows the originality of his thinking and the brilliance of his lively mind.

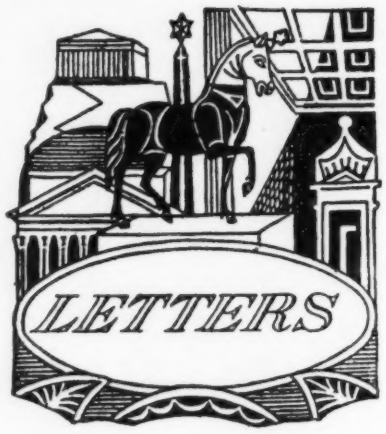


Malcolm MacEwen, Chief Assistant Editor of the AJ., who has been appointed RIBA Chief Information Officer.

*

His departure from the AJ leaves a gap hard to fill. It is some comfort that his talents will be fully exercised in the service of architecture and planning at Portland Place, and not lost to the profession. Gordon Ricketts has acquired a first-class man for his administrative team.

ASTRAGAL



W. L. Waide, A.M.T.P.I.
Cambridgeshire Planning Officer

Sir William Holford, F.R.I.B.A., M.T.P.I.

Kenneth Post,
Director, The Civic Trust

Noel Moffett, A.R.I.B.A.

C. R. W. Peake, A.R.I.B.A., A.M.T.P.I.

Hubert Bennett, F.R.I.B.A.,
Architect to the L.C.C.

'Were Architects Afraid?'

SIR: In comparing the Piccadilly Inquiry with a recent Inquiry at Cambridge, Mr. Croghan does less than justice to the architectural profession. The difference between the two cases is fundamental. At Cambridge the Inquiry was into Comprehensive Development Area proposals and a Compulsory Purchase Order, which if approved will give complete public control of the rebuilding of the Lion Yard Area. The proposals of Edger Investments Limited were illustrative only and were not in issue at the Inquiry.

In the Piccadilly case the Inquiry was concerned with a particular scheme of a Development Company and apart from the architecture itself, it was the very fact that the site was not included in a Comprehensive Development Area which was so much criticised. Perhaps the architects who refused to support the opposition to the Lion Yard scheme at Cambridge were more far sighted than your correspondent.

W. L. WAIDE
Cambridgeshire County Planning Officer

SIR: A letter about the recent Cambridge inquiry from your correspondent, D. C. Croghan, refers to me as "a not very disinterested expert witness for the local planning authority."

Since I prepared and published nearly 10 years ago a proposal to redevelop the Lion Yard, which was later approved by the Minister and formed one of the main reasons for the holding of the recent inquiry, I can only say that I had every right to be interested. This does not mean that I have approved the architectural development of the site now proposed by the promoting company, with which I have had no connection. This was made perfectly clear in cross examination.

WILLIAM HOLFORD

London

Unpaid Witnesses

SIR: D. C. Croghan contrasts the way in which the architectural profession rallied behind the Civic Trust in the Piccadilly Circus Inquiry with what he alleges took place in Cambridge. He suggests that this may in part be because "They were just discouraged by no offer of a fat fee."

I have no detailed knowledge of the proceedings at the Cambridge Inquiry, but I should like to make it quite clear that the many distinguished men, including Sir William Holford, who gave evidence under the Civic Trust "Umbrella," volunteered their services entirely free.

The architectural profession is not the only one in which members always hesitate publicly to criticize the work of their colleagues. It is only on rare occasions, when they consider wide national interests are involved, that professional men feel justified in setting aside their entirely praiseworthy scruples and coming forward in public.

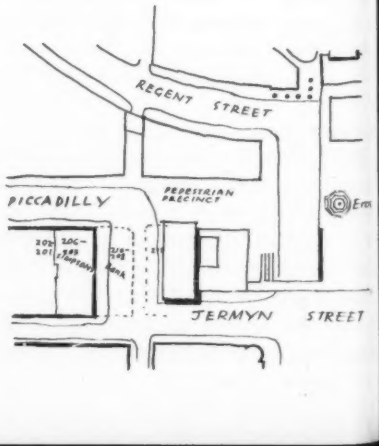
KENNETH POST
Director, The Civic Trust

London

Simpson's, Piccadilly

SIR: In his interesting review of ideas submitted by architects to the Piccadilly Circus Inquiry, Peter Rawstorne says I want to pull down Simpsons of Piccadilly. I agree that this would indeed be unforgivable vandalism. But I never suggested such a thing. I like Simpsons very much indeed. I think it is the best of Joseph Emberton's many fine buildings and would hate to see it go.

If Mr. Rawstorne looks again at my sketch plan he will see that I suggested pulling down the National Provincial Bank—a rather gloomy building of no particular distinction—between Simpsons and the Circus. I did this so as to create a small pedestrian precinct which would give a resited Eros a setting more in scale with this rather delicately-designed memorial to the Earl of



Shaftesbury. But this idea would in no way interfere with Simpsons. Lyons Corner House is another matter.

NOEL MOFFETT

London

The Editors write: We are grateful to Mr. Moffett for clearing up a misunderstanding arising from his own evidence in which in cross-examination, he answered "yes" (no doubt inadvertently) to a question by Sir Milner Holland, Q.C. (day 11, pp. 45-6) asking if Simpsons would "disappear."

Planning Appeals

SIR: I read with interest Mr. Harris's letter and your observations in the JOURNAL on January 28, as I have personally given evidence on a number of planning appeals with and without the aid of the legal profession and have in fact conducted at least one minor appeal without untoward difficulty or embarrassment.

From this experience I feel that the Town Planning Institute have gone just too far in their Charter as I would submit as an opinion that the most useful person to an appellant is in fact the architect-planner whose duty it is to furnish facts on behalf of his client to the Inspector. However, the complexity of the legal issues if any may decide whether or not the client should engage legal assistance.

C. R. W. PEAKE

Sheffield

Ventilating Complaints

SIR: Bernard Gold's letter in your issue of January 14 suggests that the London County Council should reconsider its requirements with regard to the ventilation of offices.

In fact, these requirements were reconsidered by the Council in 1954 and, since then, it has been the practice to allow a waiver of bye-law 11.03 (6) in respect of an office without a flue or mechanical ventilation so as not to require additional ventilation by means of an air-brick, etc., where the office opens on to a ventilated lobby or corridor or is subject to good cross ventilation. Details of bye-law concessions the Council is prepared to grant, including this waiver, are given in a recently published supplement to *Construction of Buildings in London*, obtainable, price 9d. (postage extra) from the Council's Information Bureau, County Hall, S.E.1 (publication No. 4063).

I should add that although a similar waiver was allowed for some time in respect of habitable rooms without flues, the Council now considers this may be a possible danger (for example from fumes from heating appliances) and some additional ventilation is now required.

The Gas Regulations applicable to London also require an air-brick, flue or ventilation system where a flueless space heating appliance is installed in an office or habitable room.

HUBERT BENNETT
Architect to the LCC

London



RIBA/FPA

Fire Protection Symposium

On January 27 the RIBA joined with the Fire Protection Association in running what was described as "a course of lectures" on Practical Fire Protection at 66, Portland Place*. This "course of lectures" differed from a "symposium" only in that the lecturers were instructed to assume that the audience knew nothing about the subject. This assumption, though prudent, was probably wide of the mark, for the "course" was attended by a large and, to all appearances, well informed audience who could have profited by more detailed information than was, in fact, given to them.

Nevertheless the occasion was an evident success. There were four speakers: Eric Bird spoke excellently on the effects of fire in buildings, L. A. Ashton of the Fire Research Station gave a careful exposition of the principles of structural fire protection, E. A. Hibbitt, the Senior Fire Prevention Officer for Manchester, gave a racy and vigorous description of the lighting of fires, and S. D. Studd, the Chief Building Surveyor of Manchester, dealt with the means of escape. In addition, there was a half-hour's demonstration of fire fighting equipment in the mews at the back. All attendings were given a cyclostyled copy of the papers.

Though the purpose of the meeting was to teach old facts rather than to reveal new ones, it served very well to bring out the new twist which has been brought to our ideas on fire fighting by greater knowledge and by our conversion to larger and taller buildings. The one fact which has been of most influence in fire fighting in this generation is certainly the damage done by smoke, both in killing the occupants of a building and in preventing firemen from getting at the source of fire.

Fire resistance is of little value if the areas protected are so logged by smoke that no one can pass through them. The need to avoid smoke logging has, in turn, given a much greater importance to ventilation. Areas to be protected need far greater ventilation rates than for normal living purposes; and these are so great indeed that, in the opinion of many concerned with fire fighting, they can only be economically obtained if protected areas (lift shafts, staircases and firemen's lobbies) adjoin an outside wall. This is, of course, most unpopular with architects, particularly with those designing tall buildings. Buildings which are higher than ground-based appliances can reach will only be countenanced by fire authorities if the street can, as it were, be extended into and up the building, giving the fireman a place on each floor where he can fight the fire as safely as if he were outside. If this can be provided, then, as Eric Bird pointed out, there is no limit to building height or extent.

Practically all speakers deplored the fact that our fire legislation is on a local and not on a national basis. The only partial dissentient to this was Mr. Hibbett who saw that if architects are permitted differences of opinion, why not fire officers also? Mr. Bird said that he hoped that new legislation will be incorporated when the Model By-laws are revised in 1963.

Matters of news which emerged in the course of the day were that JFRO is working out new rules for the automatic venting of factory type roofs, that there will soon be a cheaper and more expeditious spread of flame test and that British Standards will soon be publishing a Code of Practice for fire protection in flats and maisonettes.

* Available from the RIBA, 5s.

COMPETITION

Irish Sugar Offices

The Irish Sugar Co. Ltd. announces an architectural competition, to be held in two stages, and open only to Irish architects or to architects normally resident in Ireland, for the design of its head office in Dublin. the six finalists will receive £350, and the winner a prize of £1,000.

RIBA

Architects in Industry

The Architects in Industry Group has been set up following an open meeting at the RIBA. Its aims include encouraging the increased use of architects in the design and execution of industrial and commercial buildings, presenting the views of salaried architects in this field to the RIBA, stimulating their recognition by industry and commerce, and facilitating the exchange of technical and professional information.

The Group will be limited at present to Principals, Deputies and Senior Architects employed on a salaried basis by commercial and industrial firms. The yearly subscription is £1 1s. A steering committee under the chairmanship of Stuart Bentley has been set up to direct the Group's activities for 1960. Full meetings for members will be

held at the RIBA, probably not more than once a quarter. Panels will be appointed by the steering committee to deal with specific items in the committee, and the subjects considered to require immediate consideration include (1) the architect's place in the building industry, with particular reference to clause 5 of the Code of Professional Conduct, and (2) the standard of training for technical assistants within the profession.

Council News

Public Relations

We learn that recently a new member of the RIBA's public relations committee innocently asked the other members what was known of the public's relationship with architects. The staggering directness, perceptiveness and acuteness of this question (which was brushed aside at the time) must have nagged the committee for some time because the latest news is that the RIBA council has approved a suggestion to conduct a small pilot survey to ascertain the public attitude towards architects. This will not be specifically directed at the people who use architects, either as committee men, or private clients but merely at the general public. The main subject of this committee at the moment is Architecture Week (June 13-18, the week of the RIBA Conference, Manchester) when a poster exhibition will be made available to the allied societies. It will be interesting to see whether this exhibition, intended for the general public, and designed by intuition will meet the requirements suggested by a public survey.

Proposed Higher Council

The presidents and secretaries of the RIBA, the ICE, Structurals, RICS, TPI, and ILA have met and discussed the idea of a "Higher Council" representing all professions concerned with land use. The possible members of this council, which has such tremendous possibilities, decided to first seek the agreement of their respective councils to the idea.

Exhibition of Turkish Architecture

This, arranged for the end of March, has had to be postponed as the Turkish authorities were unable to assemble the material in time.

Chief Information Officer

From 75 applications received, Malcolm MacEwen, M.A., the chief assistant editor of the AJ, has been selected to be chief information officer of the RIBA, responsible for external relations (Press, publications, public relations) and internal relations (*RIBA Journal*, liaison with Allied Societies and the membership). Salary £2,000 × £100 to £3,000.

Course in building for Manufacturers' Representatives

The RIBA's Technical Standards committee are sponsoring jointly with the Building Centre a short course in architecture and building, following an approach from Cape Building Products Ltd.

Regional Representation on RIBA Council

The Constitutional Committee, under Cleeve Barr, has agreed that each Allied Society should have one representative on the Council, but some Societies with a large membership or difficult geographical area could have more, although the ratio between regionally and nationally elected representatives was to remain "roughly 50-50." The South Eastern, Birmingham and Five Counties, and Manchester have so far been allotted 3, 2 and 1 seats, respectively, and have reservations to make.

Overseas representation is to be discussed between the Constitutional Committee and the new Commonwealth Conference Committee. The problem of financial allocations from the RIBA to the Allied Societies is to be referred to a subcommittee of the Allied Societies' Presidents and dealt with directly by the Finance and House Committee, and the secretary is to finalize administrative arrangements concerning the boundaries between the Liverpool, Manchester, North Staffs, North Wales, and Preston Societies. The two last named are to be new Allied Societies.

RIBA Journal

The *Journal* is to be redesigned by Herbert Spencer—it will be to the A size—and will have whiter paper with coloured paper inserts. In future (from May, when all these changes will take place) it will be despatched flat, in envelopes. The Council wish to see a lively *Journal* "in which responsible members may consider it worthwhile to contribute to the ideas and controversies of their day." All changes introduced will be paid for out of revenue from advertisements. The *Journal* "will not compete with any commercial publication as regards contents," state the Committee. It can hardly avoid doing this, of course, but it is understood by this that the *Journal* will not endeavour to have first publication rights of British buildings.

BOOK REVIEWS

Moscow Reconstruction

Moscow: 1945-1957, 215 pp., 57s. (published in Moscow by Academy of Building and Architecture of the USSR). Collet's Holdings Ltd., 44-45, Museum Street, W.C.1. This book is a record, with diagrams, photographs and statistics, of the replanning, restoration and reconstruction of Moscow from 1945 to 1957. It is predominantly a picture book, with excellent town plans and good photographs and clear beautifully drawn diagrams of the major squares and thoroughfares. These show, in colours superimposed over lightly drawn street plans, new building from 1917 to 1945, new buildings since 1945, planned rebuilding and road improvements in the future and, in green, new parks and planting since 1945. Here are the new embankments along the Moscow River, the Red Square, and many others, Gorki Street and the famous boulevards, the new skyscrapers and their precincts, the new University campus and the vast areas of new housing.

No other historic capital city has so thoroughly rebuilt itself to a comprehensive plan for modern traffic and modern living as Moscow—yet how "historic," even archaic, these plans and photographs already look. But looks are deceptive—the scale of this rebuilding, the variety of amenities, the restoration work, the road pattern, the siting of tall buildings, the river embankments, all repay serious study.

The book is good value for money. The text and statistical data are unfortunately only in Russian, but most photographs and plans have secondary captions in French.

The Third Volume of *Architectural History*, the Journal of the Society of Architectural Historians of Great Britain, will soon be published and the Society is preparing its programme for 1960. This will include the Annual Conference to be held at Oxford in September. Earlier volumes of *Architectural History* are now in short supply and libraries and others intending to subscribe to the Society are asked to make early application if they wish to obtain these volumes. Correspondence regarding the Society should be addressed either to the Honorary Secretary, Frank I. Jenkins, or the Honorary Treasurer, Dr. Derek Buttle, at the School of Architecture, University of Manchester.

DIARY

Recent Biographical Research on 19th Century Architecture. Talk by H. V. Molesworth Roberts at the RIBA Library Group Meeting, 66, Portland Place, London, W.1. 6 p.m. FEBRUARY 15

Freedom in Lighting Design. Talk by Dr. R. G. Hopkinson and John Bickerdike at the RIBA, 66, Portland Place, London, W.1. 6 p.m. FEBRUARY 16

1st Session of Course on Management Techniques. At the AA, 34/36, Bedford Square, London, W.C.1. 2.30 p.m.-6.30 p.m. FEBRUARY 16

Colour Trends in Interior Decoration. British Colour Council Exhibition at 13, Portman Square, London, W.1. Mon.-Fri. 10 a.m. to 4.30 p.m. FEBRUARY 17 TO MARCH 18

Lightweight Concrete Aggregates. Talk by Professor R. H. Evans. Organized by the RCA at 11, Upper Belgrave Street, London, S.W.1. 5.30 p.m. FEBRUARY 17

Planning Appeals and Enquiries. Talk by Philip Allen at the TCPA, 28, King Street, London, W.C.2. 6 p.m. FEBRUARY 17

Exhibition by the Crafts Centre of Great Britain. In the RIBA Gallery, 66, Portland Place, London, W.1. FEBRUARY 19 TO MARCH 9

Furniture 1950-1960

Reviewed by John and Sylvia Reid

During the last month or so practically every aspect of life over the past 10 years has been reviewed by someone or other, but as the past 10 years have seen far reaching changes in the Furniture Industry we hope that no excuse is really needed for a review of these decisive years.

The 1950 Furniture Exhibition was a very different affair from this year's. The public were not admitted and the serried ranks of glossy brown furniture were seen only by members of " the trade." The Show itself was a collection of depressing shell-scheme stands with second-hand parquet patterned linoleum on the floors. Salesmen stood by rows of uninspired pieces. The public still had over a year to wait before their imaginations were to be stirred by the " Festival of Britain." There were no unit ranges. Furniture was bought and sold in suites which were designed as complete sets, and there was no interchangeability of pieces between the various suites of any one manufacturer. Wooden furniture makers were horrified at the mere thought of using metal fasteners and similar gadgets and " knock-down " wardrobes or detachable legs were looked upon as the ravings of fanatics.

Brand names for furniture were unknown. If any manufacturer was rash enough to label his products he risked incurring the wrath of the retailer, who would certainly remove any identifying markings. The shops presented anonymous products to their customers and tried to infer that the furniture in their store was made exclusively for them alone! Even as recently as two years ago certain well-known stores were trying to continue this practice.

" Furniture designers " as we use the term today for independent specialist consultant designers, were unknown and unwanted. Many firms have yet to realise that " design " matters, in spite of the fact that in 1950 there were well over 3,000 firms making furniture in this country, whilst today there are less than 2,000! Something like 1,300 firms have disappeared in the past 10 years, a fatality rate that shows that being a furniture manufacturer is hardly to be classified as a safe occupation, and yet the design conscious firms are today doing better than ever.

In 1950 almost all materials were scarce, or rationed. power-cuts kept halting production lines and the outlook was grim. There were brighter spots however even then, for in the midst of all the difficulties Ernest Race was designing and making good modern furniture, and by the ingenious use of metals and plastics—materials laughed at by the " Furniture Trade " proper —he managed to avoid quota problems and get into and, more important, stay in production. He even got his furniture into some of the less hidebound shops! Fortunately for all of us there were other people as well who began to realize that there was more to " design " than knocking something together on the factory floor. Slowly one or two firms adopted more progressive policies only to find that to have a good design was not enough, retail buyers refused to be adventurous and the battle of getting-it-into-the-shops was on. Manufacturers were forced to start advertising directly to the public on a national scale and naming their products; Gomme with their " G-Plan " advertising scheme are notable in this respect. Over the past decade we have seen the transition from anonymity to displays of named manufacturers' products, including permanent exhibitions of particular makes of furniture in many shops. In this way the hands of the retailers have been forced.

As professional designers got to work the sanctity of the " suite " was challenged and it has now been replaced by balanced series of pieces which allow people to cater for their own individual requirements and the rooms in which they live. This change has been a vital part of the swing to branded products, and it is a steadying influence on design policy because many people buy pieces as they can afford them and so ranges must be kept going for years. The yearly clean-sweep of " old designs " is out.

As interest in design has developed so has the interest in the designers and the leading firms now fully credit the designers of their products. Firms now accept metal parts and accessories—" knock-down " furniture, particularly wardrobes, are quite common, and detachable legs, etc., are accepted as normal practice. A far greater variety of timbers is being used. A few years ago the more progressive firms forced public admission at the annual Furniture Exhibition in order to let the *public* see what was available. Far from ruining the show, as detractors said it would, shows have continually improved and this year's show is the best ever. The public are admitted to the gallery for the first time and the " Trade only " section has dwindled dramatically. If this progress continues it will soon disappear entirely.

Of the fewer firms now in existence many show an increased efficiency which has kept prices steady. Wholesale prices have been steady for the past two years, and have risen by less than nine per cent over the past six years and even this rise was chiefly due to the rise in cost of materials. Output has soared and stands at about £120 million for 1959.

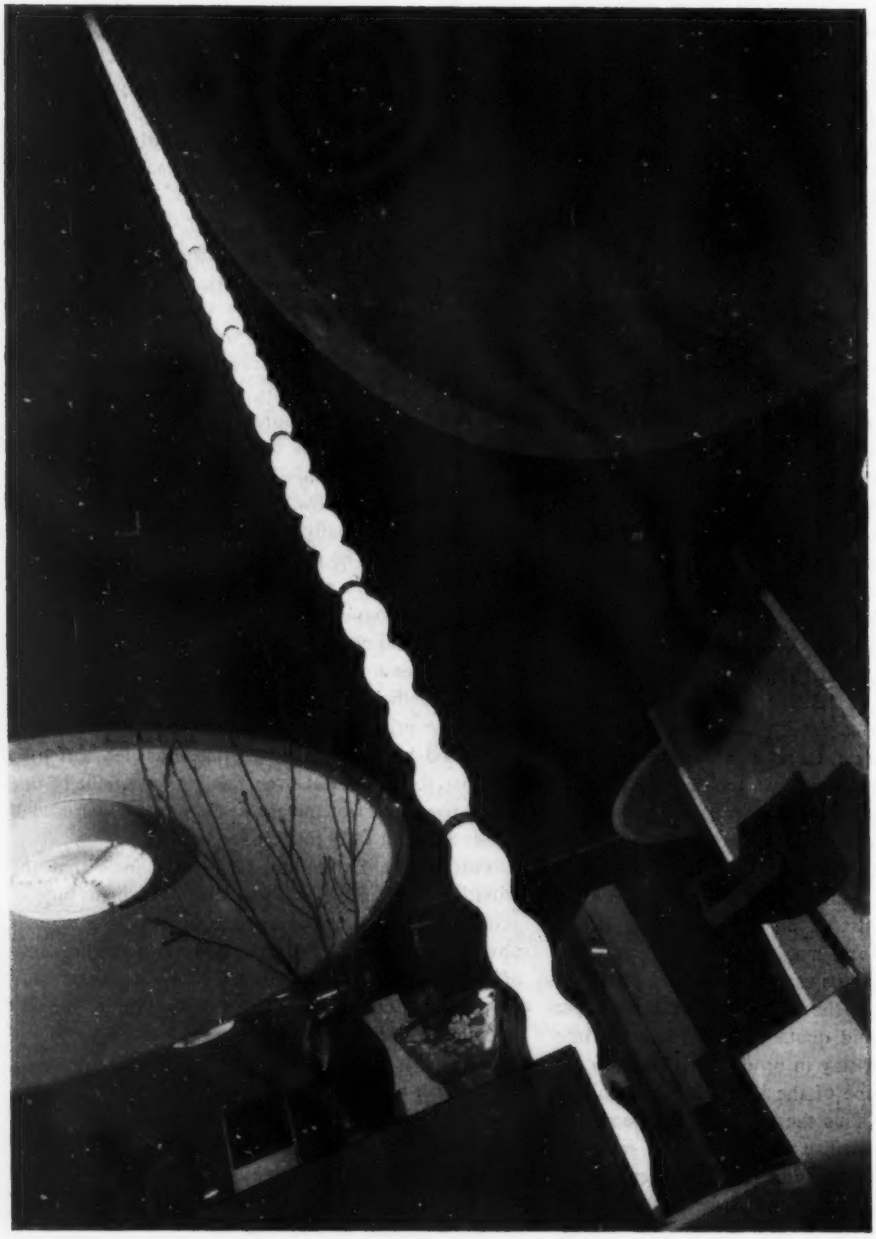
A visit to the Exhibition, however, shows that the initiative is still in the hands of a very few firms indeed, and whilst these are continually growing in size, it is obvious that many of the other firms with no sense of direction, who frantically try to get onto the band wagon of " contemporary " design without proper advice and experience, will not be around when the 1970 Show is reviewed.

This year it was apparent that the majority of the public were to be seen on stands where something worthwhile was on show! Whilst the second-rate stands were very sparsely populated, manufacturers with well-known designers were all looking happy and generally pleased with results.

The Furniture Exhibition

by John and Sylvia Reid

In reviewing the Furniture Exhibition this year we have chosen as examples the items which break new ground or show the development of recent thoughts in furniture design. All of the furniture chosen has clean lines and a directness of approach that will appeal to most architects. Although the examples used were all chosen directly from the makers stands it is significant that each one proved to be the work of a professional designer. It so happens that there is not one single *anonymous* piece. Another feature in common is that nearly all pieces rely on the use of metal legs or frames to achieve a greater lightness and grace than is otherwise possible. For the 1960's therefore we may confidently look forward to seeing a wider and more sympathetic use of metal with wood and long low lines for upholstery and storage units.



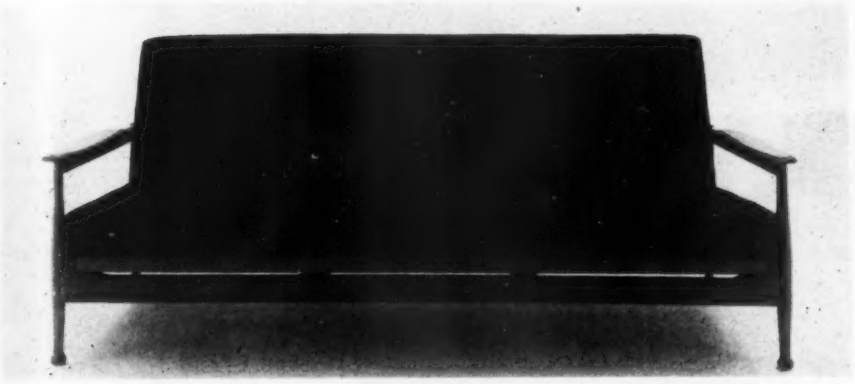
Thanks to the control exercised by Misha Black the Furniture Exhibition has now become one of the most orderly and attractive of our large exhibitions.
In the Central Area this year "The Finger of Light" pointed 100 ft. to the roof of the Exhibition Hall, symbolising the extension of the public exhibition to the first floor. The Rotaflex light fitting was designed by Misha Black in association with John Reid.
Around the "finger" is a display of furniture selected by the Council of Industrial Design. This exhibit was designed by Stefan Buzas.
The gardens flanking the Central Area were designed by Peter Shepheard who broke away from the conventional potted plant approach and used full-grown silver birch trees with natural groupings of a variety of supporting plants.
Exhibition architect: Misha Black.
Associated architect: John Bruckland.

UPHOLSTERY

One of the most interesting developments in furniture design recently has been the transformation of the bed-settee. Until a comparatively short time ago bed-settees, or put-you-ups, were made with the length of the settee as the width of the bed, the seat being folded over twice. The resultant piece of furniture was inevitably dumpy and heavy looking. Now the length of the settee is the length of the bed, so that the back, or seat, is moved only in one direction. This results in a long, low and rectangular settee, which can be graceful and fits well into modern interiors. There are now a wide number of variations on this theme with backs that drop, seats that slide, open ended and enclosed.



1b



1a

1a and 1b. Convertible double settee, Manhattan 318. Made by Guy Rogers Limited. Designed by George Fejér and Eric Pamphilon. This is easily converted into a double bed, with the advantage that bed-clothes can be tucked in all round. Cushions are of Dunlopillo polyether foam on pure rubber webbing. It is also available in single bed form and can be "knocked-down" for transport. Frames of afromosia or mahogany and a wide choice of covers. There is also a matching chair available. Price: from £48 according to cover and finish.



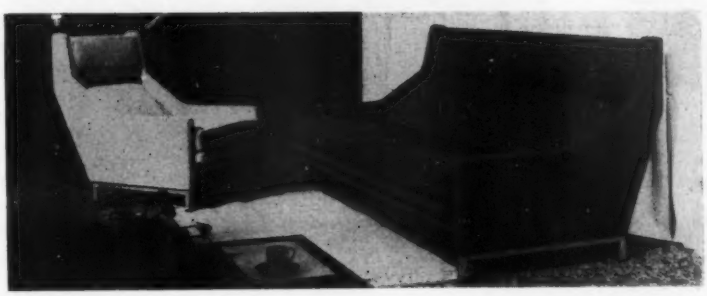
2

2. Convertible couch 625. Made by Vono Limited. Designed by Clive Latimer. This couch has a pleasing long, low line with an angled seat. It converts into a single bed, the seat being levelled for this purpose. There is also a matching chair and the usual choice of covers. It is fitted with Shepherd castors at the rear. Price: from £35 according to cover.



3a

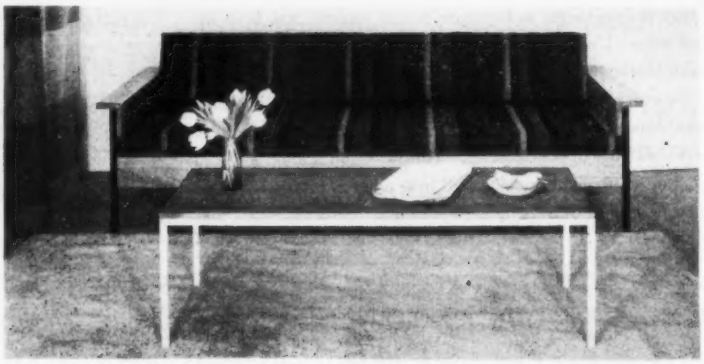
3a. Sofa-Beds. Made by A. F. Buckingham. Designed by Frank Guille. This low back sofa-bed (single) is from a range of convertibles which offers both double and single beds and matching chairs with both high and low backs. It converts to a 2 ft. 6 in. bed with a single action, and does not require to be moved away from the wall for the purpose; metal leg units are finished in satin chrome. Price: from £43 according to cover.



3b

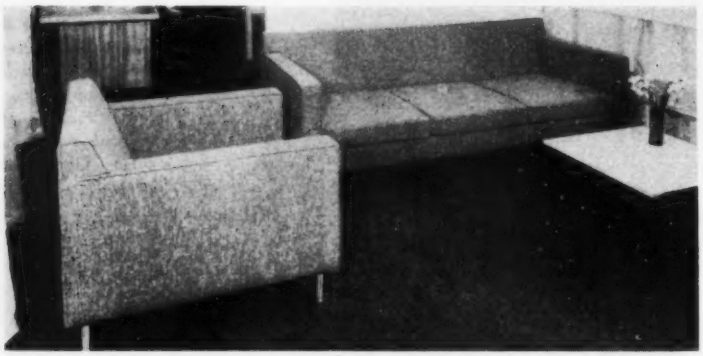
3b. The high back sofa-bed (single) and chair, together with a double sofa-bed, have been designed to match the low back chair which is companion to the sofa-bed illustrated above. A matching "suite" can therefore be made by putting together any of the pieces in the complete range. To convert this piece the seat simply pulls forward. Prices: from £48 according to cover. Chairs: low back from £21, high back from £26.

The Furniture Exhibition



4

4. *Convertible settee UC60. Made by Conran Furniture. Designed by Terence Conran. The back drops to convert this settee into a single bed; a security lock ensures that this cannot be done accidentally. The frame is of 1-in. square tube stove-enamelled black, with rails and arm rests of African walnut. Cushions, which are reversible, are of 4-in. foam rubber on Pirelli webbing, and can be covered in any of three ranges of fabrics, or leather. Price: from £41 according to cover. Matching coffee table T.30 from about £8.*



5

OTHER CHAIRS

5. *Settee UC50. Made by Conran Furniture. Designed by Terence Conran. A settee and matching chair which, for once, does not convert into anything else. These have a pleasing rectangular line and simplicity which will enable them to blend well with other furniture in almost any type of room. Cushions are of plastic foam on Pirelli webbing, the square metal legs are silver bronze plated. Price: from £58 according to cover. UC51 matching chair from £37.*



6

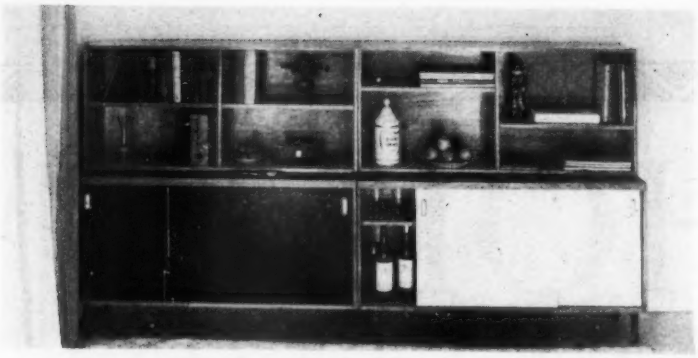
6. *Modulus interchangeable seating units. Made by Hille of London. Designed by Robin Day. This useful new range of seating units is based on a 2 ft. 4 in. module. The basic components—seats, cushions, table tops and storage units—can be arranged in a variety of ways to suit individual requirements. The wood used is makore, the frames are black stove-enamelled steel. The foam rubber cushions have removable zip-on covers. This could take the place of purpose-made bench seating in many architectural schemes. Price (of group in photograph): from £120.*



7 8

7. *Aluminium and Plastic Chair. Made by Hille of London (under licence from Herman Miller) designed by Charles Eames. This chair is one of a group, designed in America by Eames. The frame is cast aluminium and it is upholstered in a variety of plastic fabrics. This is a refreshingly graceful chair and will be most useful for sophisticated interiors. Price: from £47*

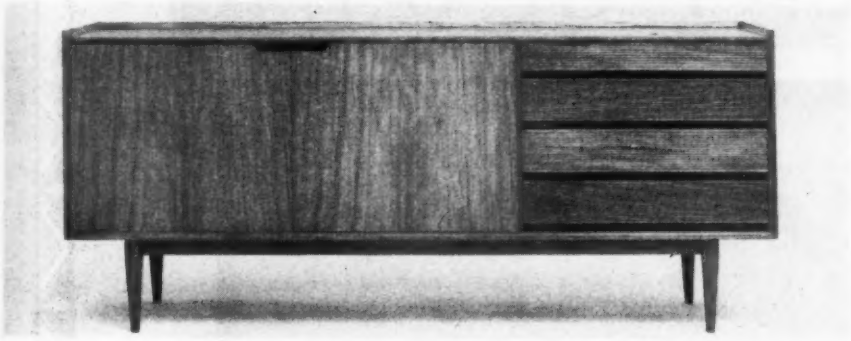
8. *Bell swivel chair. Made by A. Duckworth. Designed by Aidron Duckworth. An interesting but expensive chair of fibreglass construction with a cast aluminium alloy base. It is upholstered in foam rubber and covered with nylon and woollen fabrics. Price: from £63.*



9

STORAGE UNITS

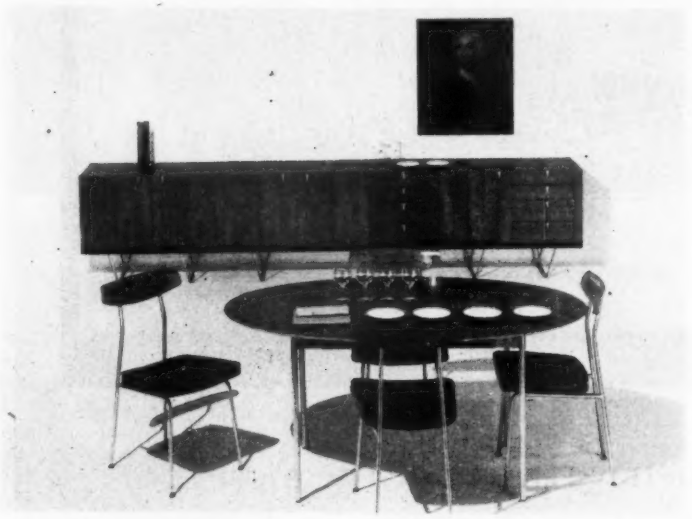
9. *Made by Conran Furniture. Designed by Terence Conran. These classically simple storage units can by grouped together and arranged, without specialised assembly, to form bookcases, room dividers and storage walls for all kinds of rooms. The storage unit shown is composed of four units. Tops of the lower units are black linoleum, doors are cellulosed black or white, with the carcases in African walnut. 1 in. square tube frames are stove-enamelled black. Price: as shown approximately £84.*



10

SIDEBOARD

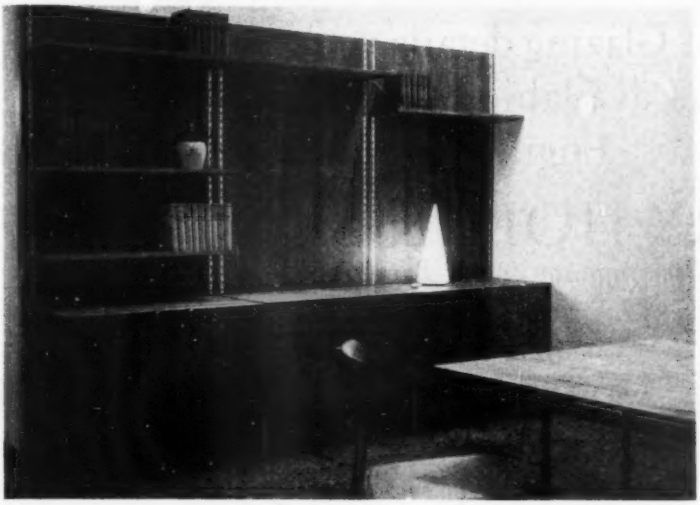
10. *Made by Henry Stone & Son (Fyne Ladye of Banbury). Designed by Richard Hornby. One of the new long low sideboards which are becoming increasingly popular. Made of afromosia and afromosia veneers with an oiled finish. The shallow top drawer is lined for cutlery. The cupboard units have adjustable shelves and an Ivory Formica drinks tray is included. Height 2 ft. 8 in., length 6 ft. 3 in., depth 1 ft 7 in. Price: £52 10s. 0d.*



11a

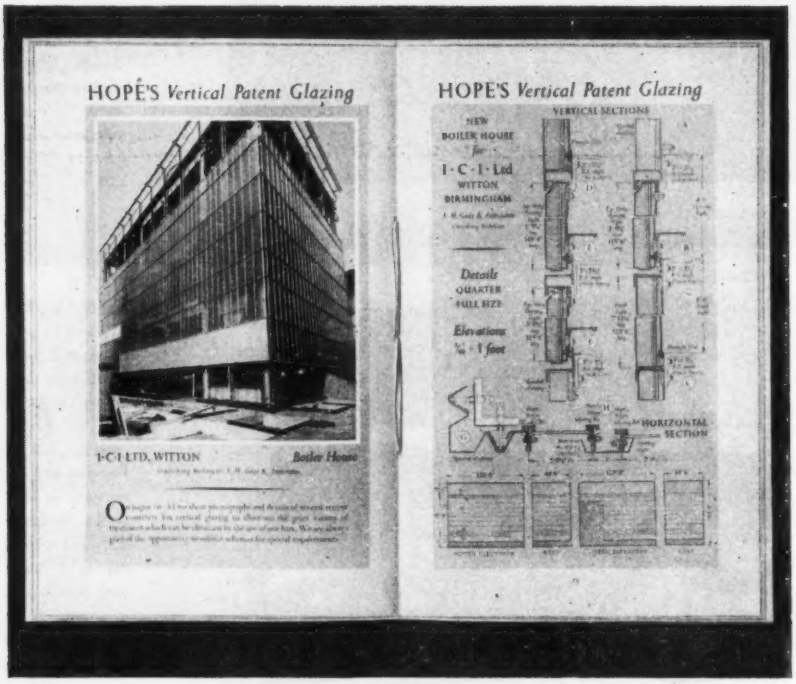
DINING FURNITURE

11a *and* 11b. *Made by The Stag Cabinet Company Limited. Designed by John and Sylvia Reid. This is a complete range of dining furniture. Storage units are designed on a 1 ft. 6 in. module. There are two 3 ft. units and a 4 ft. 6 in. sideboard and so a long low line of units can be formed in multiples of eighteen inches. Doors and drawer fronts are applied to the face of the units and so there are no divisions to break the line. Units have adjustable felt lined trays and shelves, and the cutlery liners are removable. They are externally finished in oiled teak with beech interiors, and handles and leg units are satin-nickel plated. Depth 1 ft. 6 in., height 2 ft. 3½ in. There are three tables in the range—oval and rectangular extending tables, and a drop-leaf table which, when closed, will fit into a line of storage units, a useful feature for small rooms (*11b*). The 3 ft. teak veneered bookshelf unit clips onto a batten screwed to the wall and can be used as a form of wall panelling. Each unit has four adjustable shelves. The chair has a satin-nickel plated steel frame which dowels into a back-rest shaped from solid afromosia. The seat is of foam rubber on formed plywood, upholstered with black or natural leather. The eight pieces in the range cater for widely different types and sizes of room. Prices: 3 ft. storage units £19. 4 ft. 6 in. sideboard £26. Oval table £17. Rectangular table £15. Drop-leaf table £16. Shelf unit £13. Chair £8 15s. 0d.*



11b

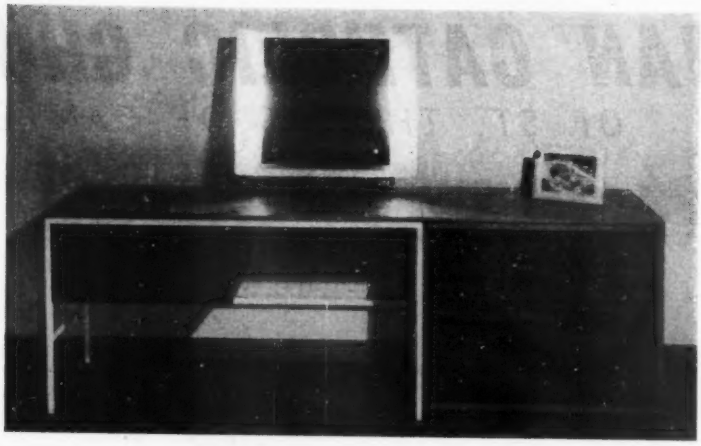
HOPE'S
PATENT GLAZING



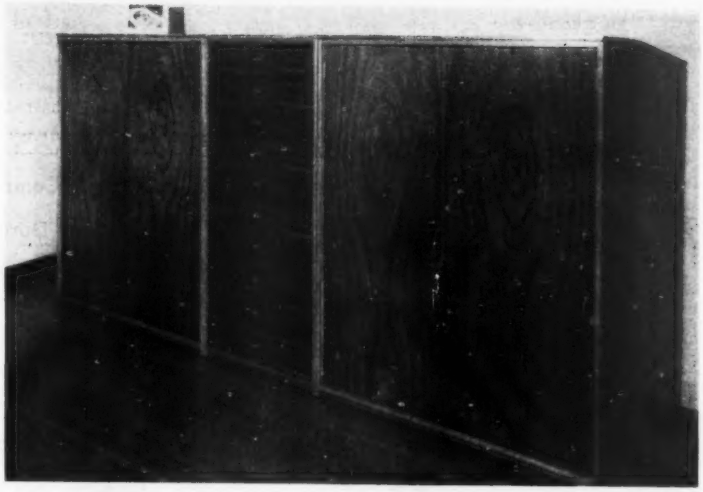
We believe this to be the most comprehensive and useful catalogue of Patent Glazing details yet produced. Copies available to Architects and Engineers from

HENRY HOPE & SONS LTD

Smethwick, Birmingham & 17 Berners Street, London, W.1



12a



12b

BEDROOM FURNITURE

12a and 12b. *Aspern Suite. Made by Archie Shine Limited. Designed by Robert Heritage. This is an interesting suite which breaks new ground in several ways. The use of square tubing for the underframe of the dressing table gives a light appearance that cannot otherwise be achieved. Taking metal into the bedroom is a step in the right direction. The use of lighting combined with the mirror is also a good feature. The chest on the right-hand side is, of course, a separate piece. Timbers used are mahogany and Rhodesian walnut. Prices: dressing table £40. Chest £32. The wardrobe units (12b) are only 4 ft. 8 in. high and can be put together as a storage wall. The new height is a welcome break from the traditional height and it will be interesting to learn if this becomes acceptable to the public. Price: as shown, £126 10s. 0d. (wardrobe unit £41 10s. 0d.; high chest £43 10s. 0d.).*



13

OFFICE FURNITURE

13. *Formation Furniture. Made by Bath Cabinet Makers Limited. Designed by Brian Henderson. Joint first prize winner in the TDA office furniture competition this range of office furniture is now in production. The variety of units cater for most office needs and the standard of finish is high. Price: 4 ft. desks from £28; 5 ft. desks from £52; storage units from £52.*



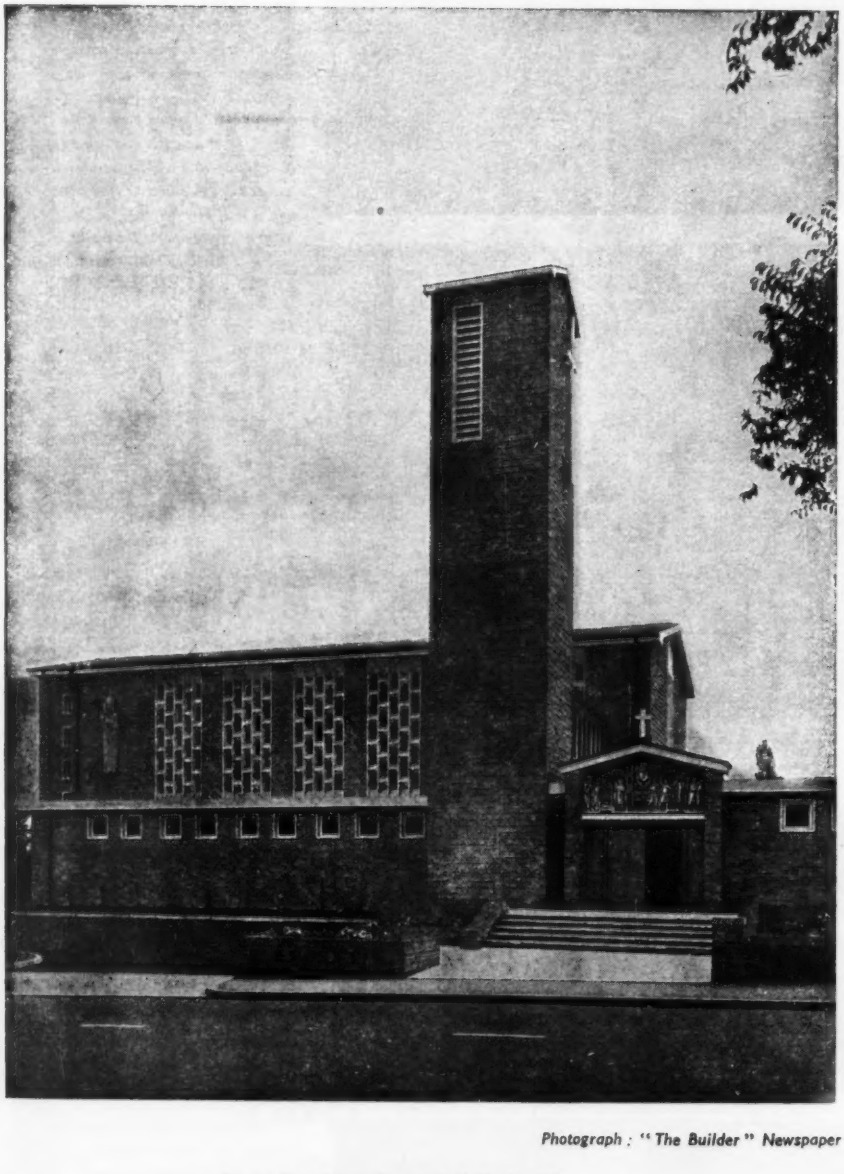
14

14. *Office desk made by Conran Furniture. Designed by Terence Conran. Although Conran was the joint first prize winner in the TDA competition this desk did not receive an award. Well made, it is finished in teak veneer and black leather with silver-bronze plated metalwork. It can be fitted with intercommunication systems and other extras to order. Price: from £130.*

The ROMAN CATHOLIC CHURCH

OF ST. THOMAS OF CANTERBURY

Rainham, Kent



Architects:

E. G. Dodds and

K. C. White, A.A./R.I.B.A.

Bricks:

2⅝" Buff Multi Rustics

Supplied through

R. Passmore & Co. Ltd.

General Contractor:

J. H. Durrant & Son.

Ibstock Buff Multi facing bricks were used for this new Roman Catholic Church because of their pleasant appearance and durability. Ibstock Facing Bricks are particularly suitable when it is desired to blend with the existing surroundings and are produced in a large range of colours.

Photograph: "The Builder" Newspaper

Send for Sample and full details

Ibstock FACING BRICKS

IBSTOCK BRICK & TILE COMPANY LIMITED, Ibstock, near Leicester. Telephone: Ibstock 591 (3 lines)
London: L.M.R. Goods Depot, Wright's Lane, Kensington, W.8. Telephone: Western 1281 (2 lines)

technical section

THE INDUSTRY

From the industry this week Brian Grant describes a Swiss automatic door opener, French wood block flooring, an oil-fired boiler, and reviews a leaflet on open fireplaces.

Automatic door-opening

The Tormax automatic door opener is a Swiss design which has only recently been marketed in this country. All models can either be recessed in the floor or mounted on the door frame, and are suitable for use with any type of control, push button, floor contact bars, switches under mats, or photo-electric cells. The mechanism is electro-hydraulic and can control single or double doors, either sliding or swing, and various models are made to suit doors weighing up to 1 ton. Power is required only for opening the doors, which are closed by springs, so that if there should be a power failure, the door is still usable, the opener becoming merely a spring closing check. Prices start at about £185 per set, and vary according to the type of operating gear required. (*Allgood Continental Ltd., 5/6 Eagle Street, Holborn, London W.C.*1.)

Wood block flooring

The Durabella wood block floor was evolved in France and is now being marketed in this country by Barnes and Fletcher. The floor consists of ½-in. thick strips of wood, 1 in. wide and in lengths of 12, 10 or 8 in. Four of these strips are stapled together with corrugated fasteners of galvanised steel, set at an angle across the joints. The stapled strips thus form 4-in. wide "tiles" which are baked at high temperature to remove all moisture and then impregnated with a rot-proofing and stain-resisting compound.

Laying of the floor is quite simple. The corrugated fasteners are not fully driven, and project a short distance from the under surface of the tile, so that they are held by the screed. About two square yards are laid at a time, the screed being floated and levelled, after which the tiles are bedded down. The floor may be walked on and sanded off after two or three days. The makers claim that the tiles are suitable for use with underfloor heating, while tests in France show them to stand up to outdoor use. Tiles are made in oak or pecan (a tough species of hickory), and cost 29s. a square yard or more according to size. Fixing is by various approved firms. (*Barnes and Fletcher Ltd., 75, Baker Street, London, W.*1)

New oil-fired boiler

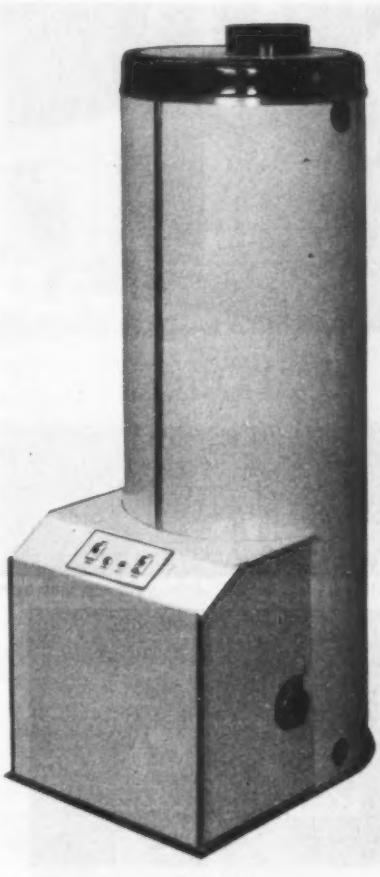
The new Stuttard 1970 oil-burning boiler has an output of 40,000 B.Th.U. per hour and a claimed efficiency of 83 per cent. The burner is a development of an American type, but is fan-assisted to overcome any lack of chimney draught and also has a device to give audible warning when combustion efficiency falls. Price is £92 10s. and the unit, or a complete central heating system, can be bought on deferred payments. (*D. E. Stuttard Ltd., Colden, Hebden Bridge, Yorks.*)

Open fireplaces

The Fireclay Grate Back Association has just issued a leaflet based on BS 1251 and giving the full dimensions of the various standard widths of fireplaces. Sectional grate backs, made in two, four or six sections are easy to install and replace, and at the same time provide the stress relief to counteract the high local temperatures produced by continuous burning appliances. The association recommends the type which is supplied in one piece, but which is heavily scored for easy separation into two parts. The Association naturally recommends that fireclay should be chosen as the best refractory material, and gives the addresses of a number of its members. Copies of the leaflet from *Drayton House, 30, Gordon Street, London, W.C.*1.

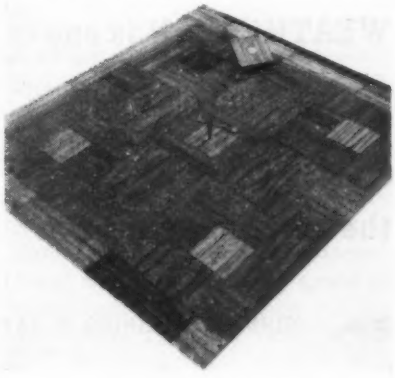
Esca Board

We find that Esca Board, the hardboard which needs no filling, priming or undercoat and which we reported on in the JOURNAL on December 17, is not only sold by C. F. Anderson and Son Limited but also by many others. We must apologize to these others for having inadvertently given the impression that Anderson's are the sole distributors.



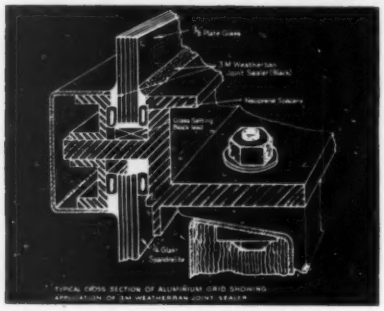
The Stuttard 1970 oil-burning boiler.

Durabella wood block floor.





CONNECTICUT GENERAL LIFE INSURANCE COMPANY BUILDING, HARTFORD, CONNECTICUT, U.S.A.



ARCHITECTS:
Skidmore, Owens & Merrill, U.S.A.

GENERAL CONTRACTOR:
Turner Construction Co.

GRID MANUFACTURER:
General Bronze Corporation

APPLICATORS:
Pittsburgh Plate Glass Co.

JOINT SEALER:
3M WEATHERBAN

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The perfect and lasting **joint sealer**

WEATHERBAN is one of the range of 3M adhesives and sealers for the building industry

3M WEATHERBAN Joint Sealer was chosen as a caulking and glazing compound f sealing curtain wall panels of the Connecticut General Life Insurance Compa building because of its proved record of durability and outstanding performance extensive wind and weather tests.

A mock wall sealed with WEATHERBAN Joint Sealer successfully withstood wi loads up to 130 m.p.h. and simulated rainfall equal to 12 inches per hour. As result WEATHERBAN Joint Sealer has been used as a perimeter bead for all edges of glass spandrel panels, as a bedding compound and exterior glazing bead for large glass lights, as exterior and interior glazing seal around glass and as a caulking compound for seams between mullion cover plates and flashings.

3M APPROVED CONTRACTOR SERVICE *is available for t application of Weatherban where required. Cop of the full specification for the sealing of curta wall structures can be obtained from 3M.*

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technical section

SfB File No.	B
UDC No.	651

7 PRACTICE

architects' fees

As all members of the RIBA are aware, the fees they may charge are based on the "Conditions of Engagement and Scale of Professional Charges" published by the Institute. Whilst the Scale establishes the fee or, more specifically, the method of arriving at the fee for a given service, it does not attempt to explain in what form or detail the account for a fee should be presented to a client. For this there are no hard and fast rules. Whether you carefully itemize the details of services rendered or present a bald statement "To professional services . . ." is left to the individual and varies considerably from office to office. But presenting an account in a simple though sufficiently explicit form is important, for not only does it have a bearing on the good relations between architect and client, but also reflects the efficiency of the architect's office. With this in mind we print, this week, a standard form of account used by Taylor & Crowther, of Truro, together with a brief description of how and why the form came into being and some comments and criticisms by architects for which we are grateful.

John Taylor and John B. Crowther conduct a practice of medium size, covering the whole of the West Country, and have taken some trouble to organize their office so that needless time is not spent on administrative work at the expense of the real business of architecture, the designing of buildings and getting them built. They have carefully considered the various documents with which the architect necessarily is concerned and have found that the preparation of accounts, for example, was time-consuming and tedious. Their old system (and one, no doubt, used by many offices) was to have each account typed on to a standard blank account sheet, the wording usually dictated or indicated on a standard form by the partner in charge of the job. In each case the account took from five to ten minutes to prepare, and very nearly as long to type, was repetitive work and distasteful to the typist. Errors often occurred and over the whole period of a job a considerable amount of time could be spent.

The architects had considered employing a full-time accountant/clerk to do this work but decided to seek the advice of a firm of business consultants, to advise on this problem and reorganize the whole office. These consultants designed a standard account form amongst others which is shown on page 239. The aim was to produce a form which the partners themselves could fill in each month, thereby being fully acquainted with the financial position of each account.

Using the new form each partner keeps a box file, containing forms for "live" and "dead" jobs. The client is sent a photostat copy of the form each month which therefore contains all details of previous accounts. The photostat costs approximately 8d. The cost of preparing accounts on the old system was considerably more.

One hour's work every month enables each partner to keep his accounts up to date. Cheques are handed to the office clerk after the information has been inserted on the form and a receipt issued in the form of a further photostat. The name and address of the client is typed in the panel below the address of the firm (top left-hand side of form) and a window envelope used for posting. The date of the account is left clear and is typed in on each photostat. The percentage fee is inserted beneath the "Professional Fees" heading if the percentage charged varies from the RIBA scale.

The Scale Charge is shown in paragraphs 2, 4, 6, 7, 8 and 9 of the form. 10 is completed when the final account has been checked and the final certificate issued. Paragraphs 1, 3, 5, 11 and 12 are additional charges which are clearly stated. The architects say that in a country practice such as this the majority of this work is not charged for, but could be, depending on the nature of the work and the client. "It is wise," they say, "to let clients know when extra work is being done and not charged for, when the work is of a minor nature."

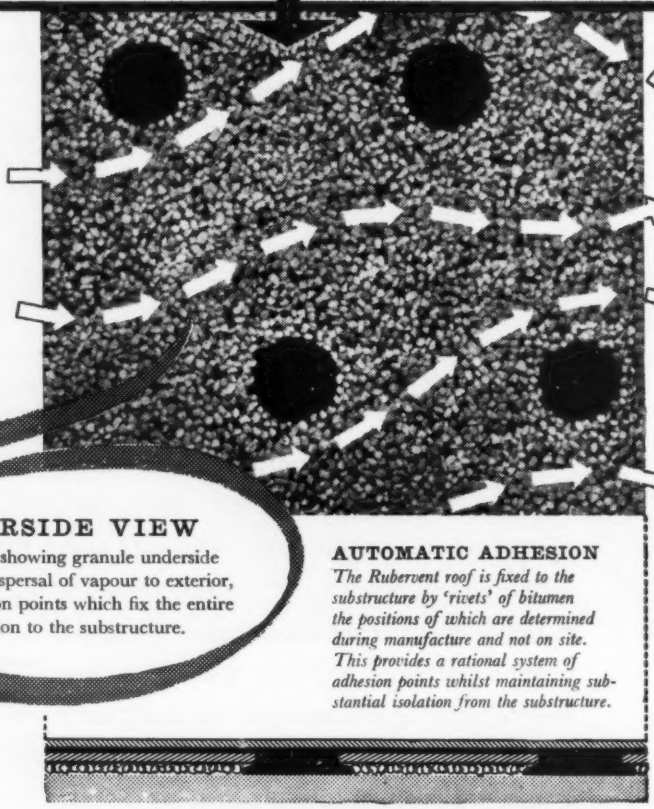
The form is explained to each client before the job starts and when the first account is received the client can see how further accounts can be made out. The client, according to the architects, is more particular, therefore, in making quite sure that approved drawings remain in their approved state and are not altered, thereby incurring extra expense. They say that it is a comparatively simple matter to ensure that all work done is charged for and no small items omitted. The more informed and interested clients appear to appreciate receiving accounts each month in this way as each photostat contains a complete record of previous payments.



ISOLATION
ventilates built-up roofs

An entirely new technique by RUBEROID

Two innovations make Ruberoid Rubervent a built-up roof that is revolutionary in both design and effect: it *isolates* the weather-proofing from substructure surface hair cracks and *ventilates* the substructure so that vapour pressures may disperse through fully communicating spaces. Rubervent, using glass fibre based bitumen materials, is inorganic and inert. The first layer is coated on the underside with coarse mineral granules. These granules support it uniformly and isolate it from the substructure, thus allowing water vapour and gases to disperse over the entire roof area and ultimately to the exterior atmosphere. Any blistering which might otherwise result from this cause is prevented. All layers are bonded together and to the substructure simultaneously thus avoiding the risk of damp and dirt between the layers. Rubervent is based on the practical experience of associated Ruberoid companies in Europe.



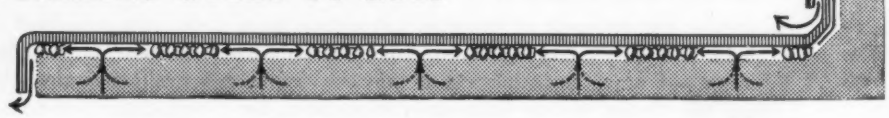
UNDERSIDE VIEW
of Rubervent showing granule underside which allows dispersal of vapour to exterior, and the adhesion points which fix the entire specification to the substructure.

AUTOMATIC ADHESION
The Rubervent roof is fixed to the substructure by 'rivets' of bitumen the positions of which are determined during manufacture and not on site. This provides a rational system of adhesion points whilst maintaining substantial isolation from the substructure.

USES For all substructures to which bitumen will bond, i.e. non-nailable materials — particularly insulating concretes.
SPECIFICATIONS 2 or 3-layer for pitched, flat or curved roofs.
FINISHES Mineral Surfaced Glass Fibre Based Ruberoid Roofing, Rubervent Mineral Topping or Ruberdal Tiles.
FIXING Rubervent roofs are supplied and fixed only by the Contract Division of The Ruberoid Company.
COST A firm estimate for the supply and fixing of Rubervent will be promptly supplied on receipt of plans or quantities for a specific project.

Rubervent

ISOLATED & VENTILATED BUILT-UP ROOF



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C517

technical section

Martins Bank Chambers, Truro, Cornwall, Truro 2751, 3751

Taylor & Crowther
Chartered Architects

STATEMENT OF ACCOUNT
FOR PROFESSIONAL SERVICES

File Number:

Date of Account:

Nature of Job. Location. Miles.

PROFESSIONAL FEES.	Fees. Date	£	s.	d.	Expenses. £	s.	d.	*	Cash Received. Date	£	s.	d.	Balance Due. £	s.	d.
1. Visiting site/premises, making inspection or survey and:— (a) reporting on conditions (b) making outline planning application (c) preparing drawings of site or existing premises (d) as (c) but also taking levels (e) preparing detailed structural report.															
2. Taking Client's instructions and preparing sketch design to illustrate scheme and making approximate estimate of cost. 1/6 of % of estimated cost £															
3. Preparing alterations to approved sketch design.															
4. Preparing working drawings and particulars for submission to Local Authorities for Bye-Law and Planning Approval. 1/6 of % of estimated cost £															
5. Preparing special drawings, alterations to approved working drawings and/or negotiating with authorities or interested parties for other approvals, or Improvement Grant.															
6. Obtaining approvals and preparing detailed specification, or providing details to an independent Quantity Surveyor for the preparation of bills of quantities for the purpose of obtaining tenders. 1/6 of % of estimated cost £															
7. Obtaining tenders and selection of tender, and preparing detailed drawings £ s. d. 4/6 of % of accepted tender price £ = (A) *Add* 4/6 of % of value of omitted work £ =															
Less Amounts already charged, items 2, 4 & 6 above =															
Net amount now due															
8. Preparing Form of Contract, supervising work and issuing certificates															
9. Amount due on practical completion £ s. d. % of accepted tender price £ = *Less* reserve for final certificate															
Total amount now due (B) *Less* amounts already charged, as (A)															
Net amount now due															
10. Preparing schedule of defects, checking final account, making final inspection, issing final certificate and handing over approved drawings. £ s. d. % of cost of works executed £ = *Less* amounts already charged, as (B)															
Net amount now due															
11. Charges arising out of delay of building operations due to causes outside control of Architect.															
12. Special works involving special service in respect of fittings, furniture, decorations, exhibitions, garden or landscape design or estate layout.															

FEES All fees are in accordance with the Scale of Charges of the Royal Institute of British Architects.

* Expenses: P. Printing. T. Travel. D. Disbursements.

PAYMENT OF THIS ACCOUNT
The amount now payable is the last amount shown in the last column.
It is not necessary to return this statement with your remittance.
No Receipt will be issued unless specifically requested.

Fig. 1. Taylor & Crowther's standard account form.

technical section

Commenting on their form, the architects say:

"The form is also most useful as a check list, remembering that 75 per cent. of our jobs are of a value of less than £4,000. We cannot make a charge until, shall we say, the estimate of cost has been made or the drawings submitted for Bye-Law and Planning Approval.

"The form reminds us about negotiations with authorities or interested parties, estate approvals or applications for improvement grants.

"Under Paragraph 7 we have to prepare the detailed drawings before the building is commenced. This again we have been very rarely able to do before but now we cannot charge a client until this has been done.

"The handing over of the approved drawings is also mentioned and this again is inserted in the form of a check to ourselves and our client.

"Very occasionally we do work which is not adequately covered by the form—in this case, the same form is used with a blank panel below and a description of the nature of the work typed into that panel."

As a criticism the architects admit that it is difficult due to the restricted space available to differentiate between standard and extra charges on the form.

The Editors sent copies of this form to a number of practising architects and asked for their comments. Those received may be summarized as follows:

Most critics were agreed that as a check list and progress record on a small job the form is admirable. Even so, there were reservations on the flexibility of the form. One or two architects were concerned about this as they found from their own experience that many of their jobs were carried out on special fees (*e.g.*, municipal housing, LCC schools) where the fee charged is according to an agreement entered into for each job.

It was suggested by some that the very comprehensiveness of the form would tend to frighten clients, particularly the smaller clients. Some went so far as to suggest that the client may get the impression from this that his architect was a little preoccupied with fees, and that, in the long run the overall effect may be to injure the relationship between architect and client. Generally most of the architects questioned agreed with the principle of a standard itemized account form but several indicated that they would prefer a simpler form.

Two specific criticisms were made. Firstly, item 9 is work done under item 8 and should not therefore qualify for extra payment. If work is discontinued after contract documents have been prepared it is unlikely that more than two-thirds of the total fees could be claimed. In reply to this the architects explain that they normally charge the supervision fee for a small job in two stages, item 8 referring to the half completion stage of the job and item 9 to the practical completion. They say that it is not intended to suggest that item 8 qualifies for extra payment. Others criticized item 11 on the ground that it would seem improper to charge a client when work is postponed for a long period other than on items 1 to 7. The architects replied by quoting the Scale of Professional Charges [5. Services not included in the scale, paragraph (*v*)] which states that "Charges assessed on the basis of *quantum meruit* in accordance with clause B3 (*vi*) shall be payable in respect of any additional services involved arising out of delay in building operations due to causes outside the control of the architect." This, they say, can apply when a building is constructed in stages when supervision costs can be greatly increased.

Commenting on the general criticisms of their form, the architects point out that the form was designed specifically for their own office, and that far from the form tending to frighten their clients they are most appreciative of the information given them when the initial meeting takes place and they are able to anticipate the amount and times of payment of fees very closely (as mentioned before, negotiated fees can be noted in the panel below Professional Services).

"It is unfortunate," they continue, "that many architects believe that fees should not be fully discussed during the initial meeting. We find that architects' fees are probably as important to a potential client as the estimated cost of the building." They point out that they rarely make an extra charge for work but find with many clients that if they know that they could legitimately be charged for the work, alterations to drawings are kept to a minimum and more important decisions are carefully considered before committing the final design to paper.

One of the partners in this firm points out that of a little over 100 "live jobs" for which he is personally responsible, ranging from £150-£80,000 in value, only eight monthly accounts were outstanding at the time of writing, amounting to about £400 in fees.

He says, "We have now had an opportunity of working the system over a period of six months and in that time I have only had two queries of a minor nature. We are now applying this basic system of Photostatting standard forms, when distasteful and repetitive work has to be done in other types of administrative work.

"It is a disturbing thought that so many firms are wasting time on unnecessary work. A basic training in organisation and management should be given in all architectural schools and the resulting attitude of mind would assist the student to clarify his thoughts not only in business matters but especially in the economical planning of buildings and the best use of materials and the elimination of superfluous 'trim' on buildings."

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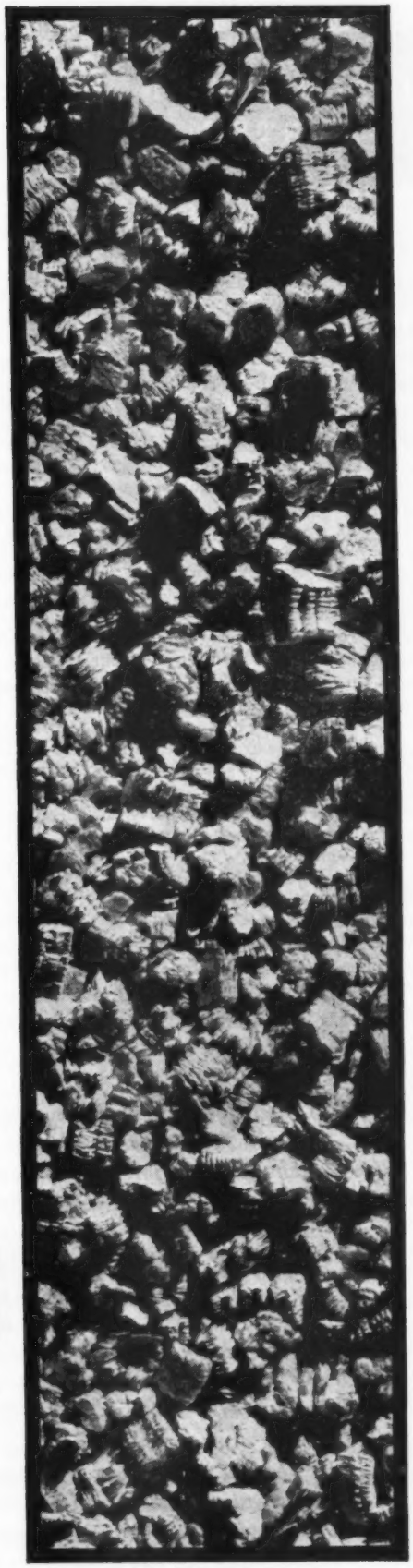
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technical section

INFORMATION CENTRE

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18.208 construction; theory

STEELWORK DESIGN

BS 449 (1959). *The use of structural steel in building.* (British Standards Institution, 1959. 15s.)

Latest revision of structural steelwork code of practice. The 1959 revision of BS 449 is not only a radical revision of the original document but also replaces Code of Practice CP 113. There was very little difference in the steelwork design content of these two documents but in view of the existence of codes of practice for other materials it would seem most illogical that steelwork should be governed by a British Standard. However, it is understood that BS 449 is well recognized overseas having existed in that name since 1939.

The scope has been widened to include normalized tubular shapes and a future extension now being prepared will deal with cold rolled sections in light gauge sheet and strip steel. High strength bolts appear for the first time and are to be used on the basis of a replacement of one rivet by one bolt of a similar diameter.

The section covering loads has been deleted and reference is made to CP 3, Chapter V. The object here is to allow the revision of Chapter V without upsetting BS 449 once more. This is a little illogical if the reasoning reference deletion of CP 113 is accepted.

Allowances for impact are covered under the clause for dynamic loads. The temperature range has been raised from 60 deg. F. to 100 deg. F. The old 449 had parts 4 and 5, "Permissible stresses" and "design and details of construction" respectively. These are taken together in the new 449 and divided into sections such as B—Design of members subject to bending; C—Design of compression members; D—Design of tension members.

To the three previous methods of design, simple, semi-rigid and fully-rigid has been added an experimental basis. This is for use where calculation would be inappropriate and requires that under a loading test the structure should sustain twice the sum of the dead and live loads and, without excessive deflection, a total load of dead load and one and a half times live load.

Stability as represented by ratio of restoring moment to overturning moment has been changed from 1·5 overall to 1·4 times live load and wind plus 1·2 times dead load.

Basic stresses have generally been raised and treatment of laterally unsupported beams has been considerably revised.

In the treatment of cased struts a major innovation has been introduced in that the concrete casing, in addition to providing lateral stiffness, is also taken as assisting in carrying the load.

The treatment of angle struts has been tidied up and the various types are related to the basic compression member table.

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18.209 construction; theory

STEELWORK DESIGN

BS 449 (1959). *An explanatory brochure.* L. E. Kent. (BCSA Publication 121. 1959 3s. 6d.)

This publication provides a very detailed review of BS 449. Prepared by L. E. Kent the President of the Institution of Structural Engineers it is primarily for the use of the steelwork designer.

The clauses of the old and new 449 are compared and design examples illustrating the differences are included where it has been deemed advisable.

INFORMATION CENTRE INDEX FOR 1959

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1959, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, *not later than March 14, 1960. This form will not be acknowledged.*

Please send me the Information Centre Index for 1959 *:*

Name
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The Gas Council on gas installation

On the following pages is a supplement on gas installation which is sponsored by the Gas Council. This is the ninth of a series of supplements which have as their object to give a full technical description for architects of the different uses to which gas and coke can be put. Like Information Sheets, these supplements are a journalistic hybrid: they are "advertisements" in the sense that the space they occupy is paid for by the sponsors and that their ultimate object is to foster the greater use of gas; but they are "editorial" to the extent that the means chosen is to provide as much reliable information as possible and that this information has in fact been "approved" by the JOURNAL'S *Technical Editor. We hope that readers will extract and keep these supplements for future reference. For this purpose a special binder can be obtained, free of charge, on application to the Publicity Manager, Gas Council, 1 Grosvenor Place, S.W.1. Alternatively, readers may apply through the business reply folder at the back of this issue. The first eight supplements "Domestic Space Heating 1. Fires and unit heaters," "Domestic Space Heating 2. Central heating by gas and coke," "Domestic Water Heating," "Gas Flues," "Coke," "Flues in Tall Buildings," "Domestic Kitchen," and "Catering," appeared in the* JOURNAL *for November 29, 1956, April 25, 1957, September 26, 1957, April 24, 1958, January 22, 1959, October 8, 1959, November 26, 1959, and January 14, 1960, respectively.*

gas supplement

SfB File No.	(51)
UDC No.	696·2

GAS INSTALLATION

Two earlier supplements in this series have dealt with flues: one, on gas flues in general, appeared on April 24, 1958, and the other, on flues in tall buildings, appeared on October 8, 1959. This supplement is a counterpart to these others and is concerned with gas piping and connections. The author begins by outlining the conditions relating to the supply of gas. Then, after setting out the conventions used in gas engineering drawings and the materials in use in installations, he describes equipment designed to maintain and regulate the supply of gas and to burn it efficiently. Passing to installation in the narrower sense, he considers in turn the service pipe leading to the meter, the meter itself, installation pipes joining the meter to each appliance and the connections to all main types of appliance. Each of these items is discussed from the points of view both of layout and of detailed design. The supplement ends with notes on ignition, thermostatic control and testing.

The purpose of this supplement is to expound in general terms the principles of gas installation in order that its demands can be better appreciated and properly balanced with the other demands of building. In certain instances, unsatisfactory pipe sizing with consequent pressure difficulties in the supply of gas to appliances connected to the system, has resulted in unnecessary cost in rectification. Difficulty and extra cost is involved in including a gas installation at a late stage of planning or building work, and also causes delay and inconvenience to other trades in addition to the architect's client.

The solution to this problem lies partly in early consultations with the Gas Engineer, better liaison and, more particularly, in a better appreciation of gas problems by architects and builders.

It is important at this juncture to know that each Gas Board throughout the country has available representatives specially trained and readily accessible for consultation without charge or obligation, and who have at their command the full technological resources of the Industry. The Boards are anxious that the architect should avail himself of these services, as it is only by a mutual understanding of each others' problems that the best possible results can accrue. It cannot be stressed too much that the earlier the consultation, *i.e.*, before or at the sketch plan stage, the better the final result.

The installation methods described are by no means the only methods to be met, but are sufficient to illustrate the underlying principles which are used.

Standards and Regulations

Control of gas installation stems initially from the Gas Act, 1948, which repealed most of the previous gas enactments. This Act provided for the establishment of independent corporate Area Boards which were given wide powers to enable them to acquire all the then private commercial gas companies, and to bring them under area control. There are twelve of these Area Boards covering England, Scotland and Wales, which are responsible for the manufacture, marketing and distribution of gas in their areas. A further corporate body—the Gas Council—was also created under this Act, whose purpose was to advise the Government on matters relative to the industry as a whole, and to control research and testing, and promote and generally assist the Area Boards.

Although repealing most of the early gas enactments, the 1948 Act maintained most of the local regulations relating to gas installation and transferred the responsibility for their enforcement to the Area Boards. It also gave the Minister of Fuel and Power wide powers to make orders to secure a uniform statutory code within the area of each Board.

Under Section 1 and the Third Schedule of the Act, the Area Boards are obliged under penalty to supply and continue to supply gas to any premises within 25 yards of a gas distributing main, or to any public street lamp within 50 yards. The cost of making a connection, laying the service pipe and maintaining it up to a maximum length of 30 ft. on public land being met by the Board, and any remainder on public land, and all on private land, by the applicant. Where a new or increased supply of gas is required for uses other than lighting and domestic use, and involves alteration or enlargement of the existing main, the Board require a written undertaking to receive and pay for a minimum quantity of gas over a minimum period—the amounts being stipulated by the Board in relation to the costs of the works involved. The Boards

gas supplement

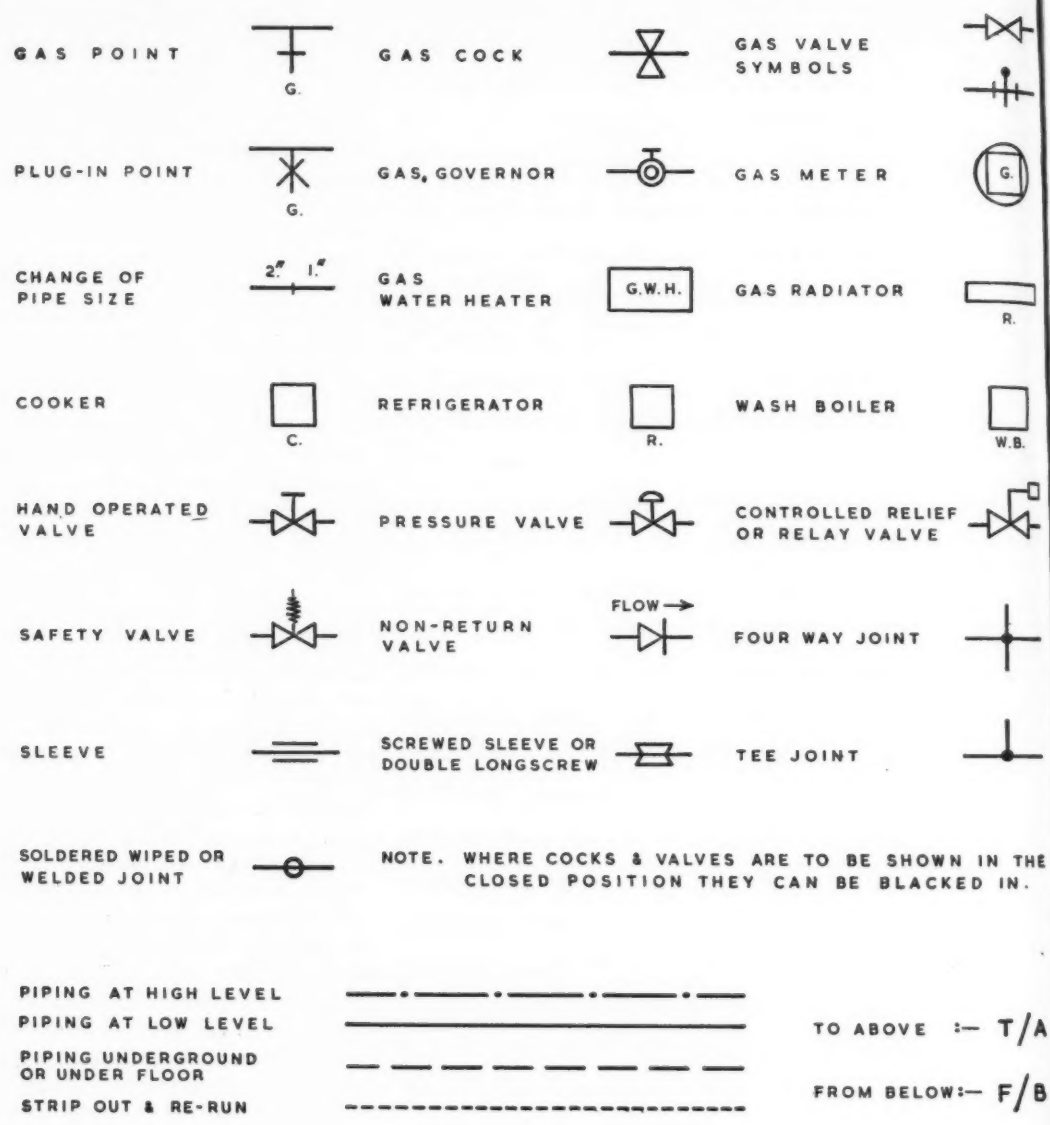


Fig. 1. Conventions.

may also require, in addition, a capital payment and securities for any sums due under the contract. In order to enable the Boards to carry out these obligations they are given various powers in relation to the laying and maintenance of gas mains, meters, rights of entry, and discontinuance of supply, etc.

It is interesting to note that, apart from the case of the London area, there is no specific law or regulation covering the construction, materials or performance of a gas installation beyond the point of the Board's meter. The installation, of course, has to conform to local Building Bye-Laws and Water Board Regulations, as well as to the Factories and Public Health Acts, but each of these are indirect controls. There is nothing as direct or complete as applies to drainage, electrical services, or building structure.

The exception to this lack of local enactments directly controlling gas installation is the London Gas Undertakings (Regulations) Act, 1939, which is confined to the LCC area—an area which forms part of both the North Thames and the South Eastern Gas Boards areas.

There are, however, certain standards, conventions and definitions to which the various Boards adhere, the most important being the relevant British Standard Specifications and Codes of Practice which are adopted where applicable. Reference should also be made to Architect's Journal Information Sheets, particularly section 37 C, D and F dealing with pipe work, and the appropriate appliance and flue sections.

Conventions

The principal conventions are the drawing symbols listed in the BS 1192: 1935—*Drawing Office Practice for Architects and Builders*—which are mainly used for location purposes and are shown in Fig. 1. For

gas supplement

some purposes these symbols are not sufficiently extensive, and improvised additions have had to be made, such as those used for indication of pipe runs and their relative position within the building, which have been in fact borrowed from the heating trades drawing symbols. BS 1553: 1949, Part I also provides some, of which the most suitable are again shown in Fig. 1.

The other convention is that given in B.S. 1710:1951 which gives a colour coding for use in the identification of pipe lines. The colour for Towns gas is given as Canary Yellow, and should be applied either to the entire length of the pipe, or as rings of not less than 12 in. width. If in rings, it is important that they should be near to valves, junctions, bulkheads, etc. Where colour is used in this way, charts giving the identification key should be displayed in suitable places.

Definitions

The gas distribution system is divided basically into three distinct parts:

(1) The "main" describes the main gas supply in the street.

(2) The "service pipe" is the pipe between the main and the control, usually fitted at the inlet side of the meter in the user's premises.

(3) The "internal installation" is the whole of the installation from the control up to and including the appliances.

The main: The provision and maintenance of the main in the street is the direct responsibility of the supply undertaking. Where new estates or housing projects are being considered, the Area Boards will co-operate regarding possible extensions of the mains distribution system.

The service pipe: The provision and maintenance of the service pipe from the main to the user's premises, where this is laid in public ground, is also the direct responsibility of the supply undertaking.

In most cases, in order to reach the user's premises, part of the service pipe will need to be laid in private ground. In such cases the provision and maintenance of this part of the service pipe will usually be the responsibility of the user.

There are variations to this procedure throughout the country, and the Area Board concerned should be consulted.

The internal installation: The provision and maintenance of the internal installation is the responsibility of the owner of the premises.

Some Area Boards are prepared to contribute to the cost of pipe installations in new buildings and the matter should be discussed at the earliest design stage.

Materials

Materials which are acceptable for use in gas installations are as follows:

(*a*) *Mild steel pipe with m.s. or malleable cast iron fittings:* This material is by far the most common. M.S. pipe, medium or heavy, should conform to BS 1387. The jointing for these materials is usually of the screwed variety threads to BS 21, 1957. *Note:* For service pipes all materials used should conform to BSCP 331,101, 1947.

(*b*) *Solid drawn copper pipe with copper alloy fittings:* Copper has some advantages for pipework, and its use for gas installations is tending to increase. Its nature makes it particularly suitable for prefabricated work where its joints can be bronze welded, or for surface work where it can be chromium plated. Copper pipes should conform to BS 659. Rim fed soldered capillary joints are simple and satisfactory for gas and water installation work and are in general use throughout the country. The capillary joint covered by BS 864 is particularly suitable for gas, being reliable and strong, besides giving a neat appearance. This consists of a socket on a fitting which has an internal diameter slightly greater than the outside diameter of the pipes being jointed. The space is filled with hot liquid solder by capillary action which gives the joint its name. Fig. 2 (*a*).

(*c*) *Lead pipe* is most commonly used in short lengths for connections to domestic meters, appliances and for condensation pipes.It has the advantage of allowing a degree of size tolerance in erection, particularly useful when connecting to existing fixtures, and also reduces the stress—due to temperature changes, building movements, and so on—transmitted to the meter case, heating appliance or similar fitting. (*i.e.*, not only dimensional tolerance but also a "soft" connection.) Usually of gas weight, it should conform to BS 602. The joint is made lead to lead, or brass to lead, by a blown soldered cup and spigot joint. Fig. 2 (*b*).

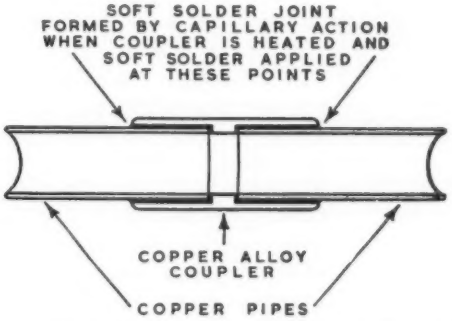
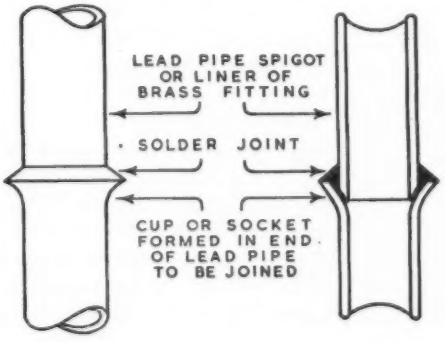


Fig. 2 (a) (above). Copper pipe and capillary joint.

Fig. 2 (b) (below). Cup and spigot blown soldered joint.



(*d*) *Solid drawn brass with brass fittings:* the use of this material is confined to surface connections to appliances such as gas fires and for this reason is usually either $\frac{3}{8}$ in. or $\frac{1}{2}$ in. It should also conform to BS 1402 and may be chromium plated.

(*e*) *Flexible tubing:* there are several types—reinforced rubber or flexible metallic pipe which may be plain, braided or plastic covered and which should conform to BS 669, 1952, Part I. All types should have screwed metal fittings. These are used for gas connections to portable appliances and usually connect to the installation with a plug and socket connection (see page 257). Where the appliance has control taps, *e.g.*, hotplate of a cooker, heavy duty tubes should be used, conforming to BS 669, 1952, Part II.

Principles of Gas Supply Engineering

There are three basic principles of gas supply engineering which need to be considered here. They are: 1. pressure; 2. volume; 3. combustion.

Pressure and volume

The first two of these principles are very closely related and may be likened to the electrical equivalents of Volts and Amperes having the same fundamental characteristics. Both pressure and volume, as applied to gas, need to be properly balanced to provide satisfactory supply conditions.

The gas to be burnt in an appliance must be conveyed at a suitable pressure, known as the "working pressure," to overcome frictional losses in pipes, meters, fittings, etc., so that when the tap of the appliance is turned on, an adequate supply of gas will be available at the burner.

In addition to having what may be termed a "good pressure," it is essential also to have the gas in sufficient quantity (volume) to satisfy the varying requirements of individual appliances. The proper use of the various sizes of pipes will ensure this second requirement.

Modern domestic gas appliances, as set out in the Gas Council Approved Lists, are designed to operate at their maximum thermal efficiency at a basic low pressure of 2.5 in. w.g. at the burner head.

It is the statutory obligation of the Area Boards to maintain suitable working pressures in the mains. These pressures, which are not great when compared with those used in other branches of engineering, are normally in the order of 4 in.-8 in. water gauge. This is known as low pressure supply.

Distribution problems due to geography and distance sometimes necessitate the use of higher pressures in the mains, which may be substantially greater than those actually required in the premises. These pressures range from 15 in.-150 in. w.g.

In certain special circumstances, gas is supplied to domestic premises at what is known in the industry as high pressure (10-30 lbs. per sq. in.). In such cases a device called a High Pressure Regulator would be fitted, and this would reduce the high pressure to normal low working pressure within the premises. The high pressure regulator, where required, would be fitted outside the premises, but under cover. Fig. 3.

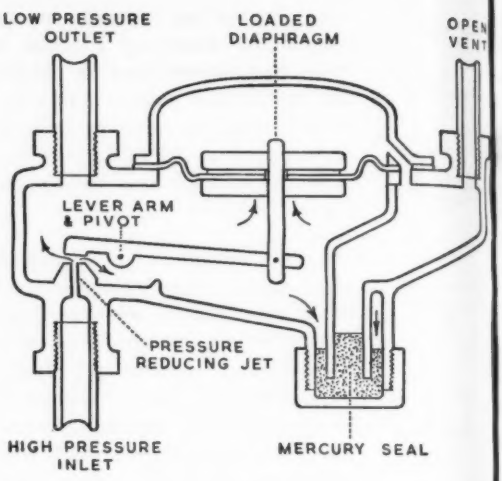


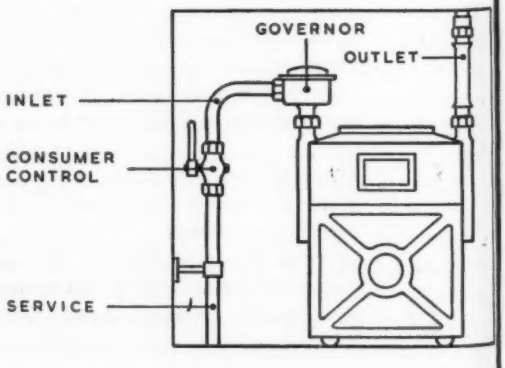
Fig. 3. High pressure regulator.

It will be understood that some of the normal working pressure in the main will be lost by the gas in its passage through the various pipes and fittings in the house installation, but if the installation has been correctly sized in relation to the requirements, this loss will be small, and gas will be available at the point where it is to be used, still in excess of the 2.5 in. w.g. actually required at the burner head. It is essential that the pressure at the point of connection to the actual appliances shall always be more than the basic requirements (2.5 in. w.g.) at any time. Also, in certain circumstances, due to variations in demand, working pressures in a house may vary from time to time.

Governors: The stabilisation of both the pressure and the volume of gas to the correct requirements of the gas appliances is brought about by the use of a governor.

A single governor may be installed at the meter, normally on the inlet side, which can be adjusted to reduce excess mains pressure down to the basic requirement of the appliances, having due regard to

Fig. 4. Governor on meter inlet.



the frictional losses incurred in the pipe installation. The fitting of such a governor will ensure constant pressure conditions throughout the premises, see Fig. 4. In built up areas where it may be expected that the working pressure in the mains will be normal low pressure (4 in.-8 in. w.g.) and undue variations unlikely, individual appliance governors, small and compact, are often utilised, either as an integral part of the appliances or fitted adjacent thereto.

Combustion

The third basic principle of gas supply engineering is that in order to release the energy contained in gas and put it to use, it needs to be burnt, and most important of all—burnt completely. To ensure that this function is carried out satisfactorily, the Gas Council, through its research stations, test all gas appliances submitted to them. Lists of tested and approved appliances are issued by the Gas Council via the Area Boards and each individual approved domestic appliance carries a label signifying the fact.

All that remains, thereafter, is that the approved appliance be installed in a satisfactory manner with an adequate gas supply and, where necessary, suitably ventilated.

The provision of flues and ventilation is of paramount importance and is covered in the Supplement "Gas Flues," April 24, 1958.

Type of burners

Before continuing to consider the application of these principles, it would be helpful if a brief description were given of the two types of burner which are in general use. They are (1) the single non-aerated type known as the neat flame burner and (2) the aerated or bunsen type.

1. *Non-aerated:* gas is supplied to the burner at normal low pressure and all the air for combustion is obtained from the air surrounding the burner. Gives what is known as a luminous or "neat" flame. Fig. 5*a*.

2. *Low pressure aerated:* the simple Bunsen Burner. Approximately half the air required for combustion is brought in and mixed with the gas before reaching the burner head. The remaining air to complete the combustion is obtained from the surrounding atmosphere. Fig. 5 *b*.

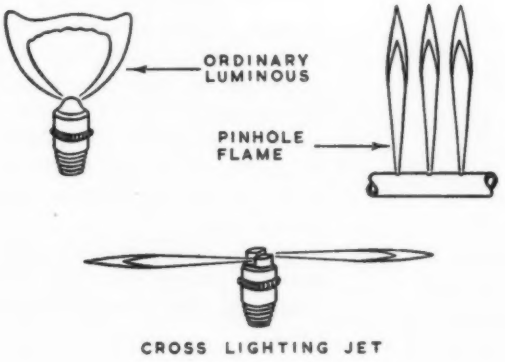


Fig. 5 (*a*). *Non-aerated burner.*

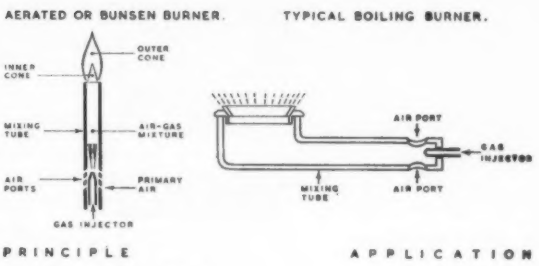


Fig. 5 (*b*). *Aerated burner.*

"Neat" flame burners are used with the following appliances:

Water heaters: All types, including sink, single point, multipoint and storage heaters, central heating boilers.

Space heaters: Convector and radiant fires, air heating units, radiators, portable heaters.

Miscellaneous: Drying and airing cupboard heaters, towel rails, solid fuel ignition burners, food warming cabinets, and some boiling rings.

Burners of the "Aerated" or "Bunsen" type are in general use with: Cookers, hotplates, grillers, boiling burners, refrigerators, washing machines and wash boilers, solid fuel ignition burners and pokers, and irons.

INSTALLATION

The service pipe

Each single house, whether detached, semi-detached or terraced, should have a separate service pipe. For multi-storied properties, flats or maisonettes, a separate service pipe should be provided for each lift of dwellings contained within the block. Fig. 6.

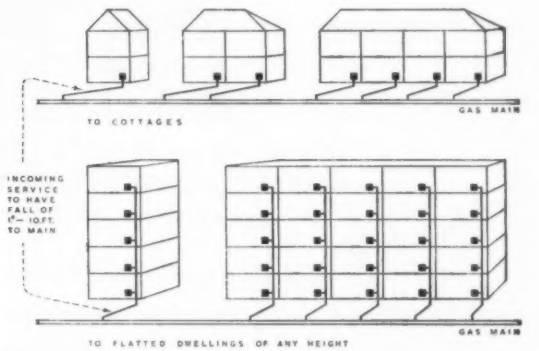
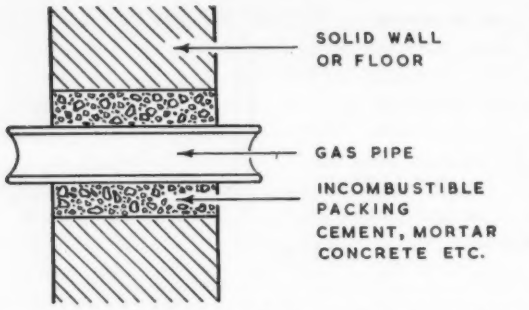


Fig. 6. *Separate services.*

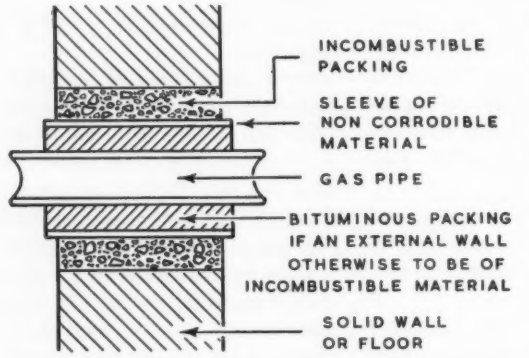
The service pipe should be sized to allow for the estimated usage in the premises and for a future extension of the gas consumption, and is usually at least 1 in. It should be laid to rise from the main 1 in. in 10 ft., at a suitable depth below ground to avoid any subsequent interference from frost or traffic, and in a straight line at right angles to the main.

In the case of the single property or dwelling, the

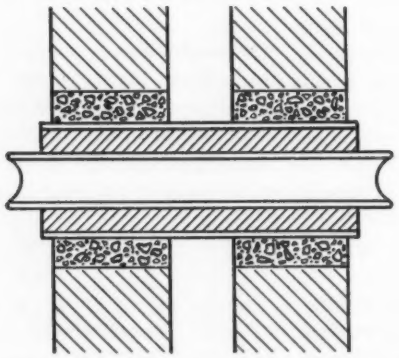
gas supplement



A. DETAIL THRO' A SOLID WALL
(WITHOUT SLEEVE)



B. DETAIL THRO A SOLID WALL
(USING SLEEVE)



C. DETAIL THRO' A CAVITY WALL
SLEEVE IS ESSENTIAL IN THIS CASE
(MATERIALS AS B. ABOVE)

Fig. 7. Installing pipes through walls.

service pipe should enter the premises as close as possible to the meter position. When the service pipe is 2 in. or over, it should be controlled by a service valve in the ground outside the building for use in cases of emergency. This valve is contained in a clearly marked surface box which is usually sited close to, but outside, the boundary of the property, or in the forecourt of the building within the boundary. The key to the valve should be kept in a safe and readily accessible position—for example, the meter cupboard—and it is the Board's responsibility to maintain this valve.

In the case of multi-storied buildings of flats or maisonettes, each individual service pipe should enter the premises as close as possible to a position from which it can be extended vertically (rising service/s) through the premises, branches or tees being fitted on each floor to serve the individual flats.

The location of the rising service pipe/s in such cases should be carefully sited to ensure that the branches to the separate meter positions should be kept to the absolute minimum.

Where the planning of each floor is typical, the rising service pipe/s may be accommodated unobtrusively for the whole of its length, either in the meter cupboard itself, or adjacent duct already housing other services.

Installing service pipes

Methods of laying and protecting service pipes should conform to BSCP 331,101, 1947, for Service Pipes.

Particular attention should be paid to paragraph 304, Section 3, Sleeves, Ducts and Casings.

Provision during building of a sleeve of non-corrodible material (such as glazed earthenware) through which the service pipe can afterwards be laid is desirable. It is essential that all pipes passing through a cavity wall should be in a sleeve and Fig. 7 (*a, b* and *c*) illustrate the recommended details. It is important, of course, that the sleeve should be in exact alignment with the pipe run, and that the ends are not obstructed. Although obvious, these points require supervision during construction.

Steel pipe should be used for that part passing through the sleeve, and it should be wrapped at least 6 in. beyond each end of the sleeve. The annular space between the sleeve and pipe should not be less than $\frac{1}{2}$ in. and should be completely filled with a suitable bituminous packing material. Where the pipe turns up on the inner side of the wall, or cannot otherwise be withdrawn, the fillers should consist of a stiff mortar, three parts sand, one part cement. On the other hand, where it is possible to withdraw the pipe, it is desirable to employ one of the proprietary non-setting compounds, or the core wrapping which is specially made for this purpose.

There are various methods under present day conditions of making entry to the building. The following illustrations show those in common use: Fig. 8*a, b* and *c*.

gas supplement

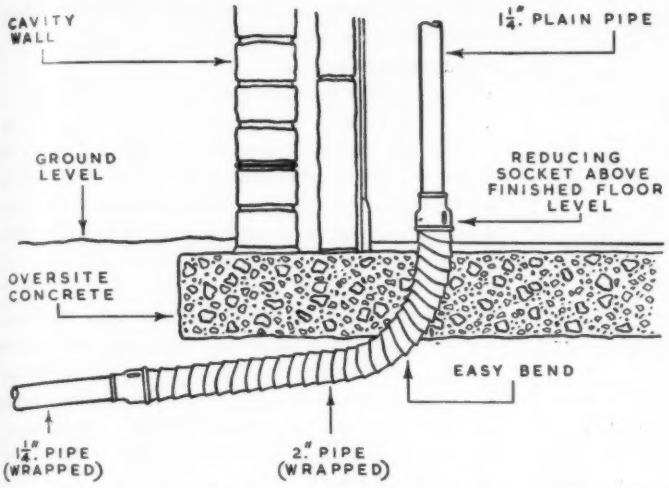


Fig. 8 (a). Method of service entries. Connecting pipe is oversized to provide for copper pipe to be pushed through should this become necessary at a later date to restore supply of gas at comparable volume to initial service and riser requirements where service pipe cannot easily be replaced.

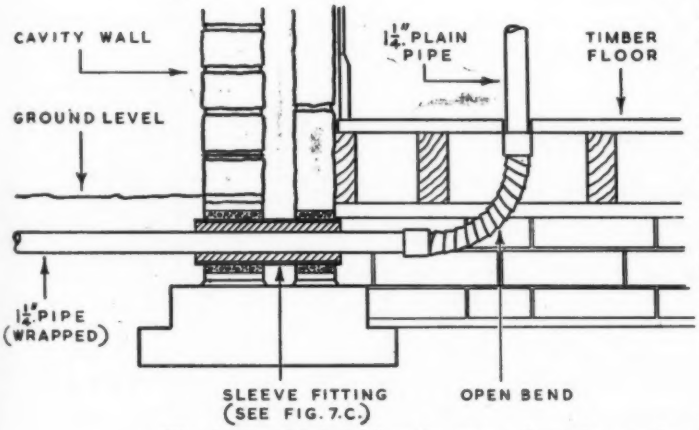


Fig. 8 (b). Method of service entry where pipe can be withdrawn and replaced.

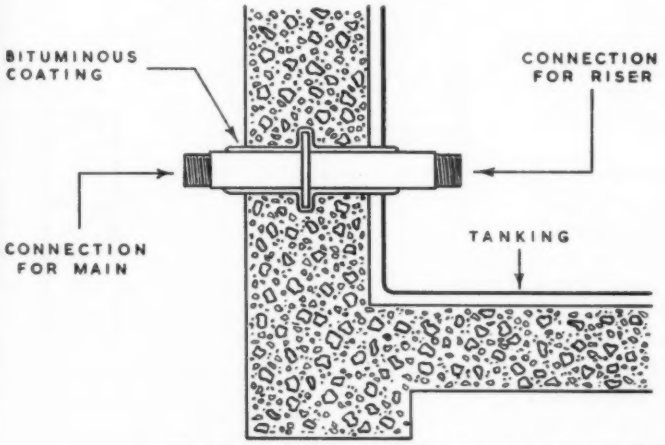


Fig. 8 (c). Method of entry where tanking is employed in basement of block of flats. A flange is welded on a short length of pipe which is coated with bituminous material and set in position before concrete is poured.

THE METER LOCATION

The position of the primary meter should be situated as close to the point of entry of the service pipe as is practicable, and yet provide easy access without disturbance to the consumer. Since meters are measuring instruments and the basis of charges for gas, their accuracy is important. They should not therefore:

1. Be exposed to the possibility of physical damage either from chance knocks due to obstructive positioning, or from insecure fixing.
2. Be exposed to continuous damp and wet conditions, for example under or near sinks and draining boards; in the open; or in contact with external walls liable to condensation.
3. Be exposed to excessive fluctuations of temperature, *i.e.*, not above or close to cooking or heating appliances, and not in the open (gas measurement is affected in the order of 1 per cent. for each 4 deg. F.).
4. Be exposed to the possibility of contact with flame or electric sparks and electrolysis. Electric and gas meters may be accommodated in a single cupboard or compartment providing the regulations appertaining to both services are observed and a fire-resisting, non-conducting partition is provided to separate them, Fig. 9. The gas meter or installation pipes should not be nearer than 2 in. to an electric conduit, apparatus, or any other metallic conductor, unless electrically and thermally insulated.

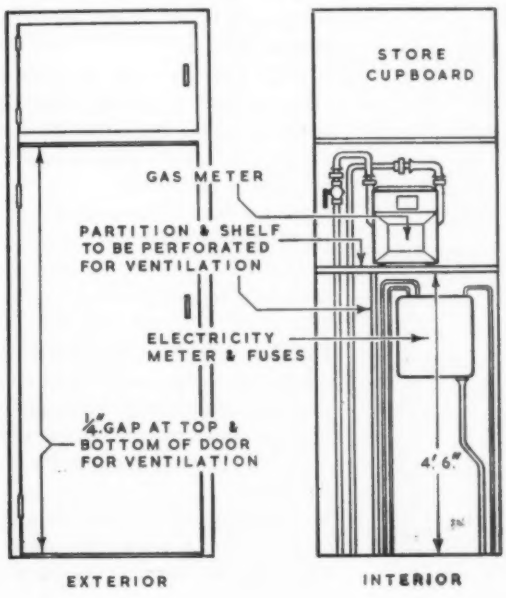
The position and housing of the meter should be selected bearing these points in mind, and it usually means that the meter is located internally in a suitable cupboard or compartment.

Meters

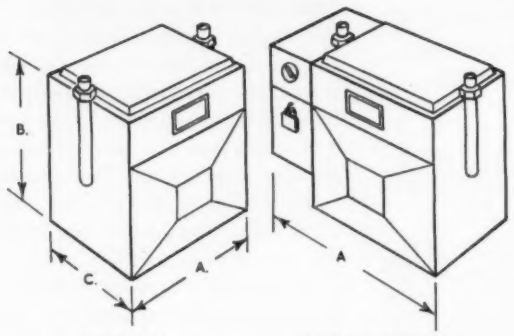
Domestic meters are now available in two basic sizes, D1 and D2.

The normal D1 size will supply cooker, washing

Fig. 9. Gas and electricity meters housed in same cupboard.



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TYPE	CREDIT	PREPº	CREDIT	PREPº
SIZE	(I.G.E.)	D.1.	(I.G.E.)	D.2.
WIDTH A.	10″	13″	13″	15¾″
HEIGHT B.	12½″	12½″	15½″	15½″
DEPTH C.	7½″	7½″	9″	9″
MINIMUM CUPBOARD SIZES	2′ 0″ WIDE 2′ 0″ HIGH 10″ DEEP		2′ 6″ WIDE 2′ 6″ HIGH 1′ 0″ DEEP	
SIZE OF PIPE CONNECTION	1″	¾″	1¼″	1¼″

Fig. 10. *Types and sizes of dry meters.*

machine or boiler, refrigerator, poker, water heater and two gas fires.

The D2 size should be used when central heating or warm air units are to be installed in addition to other appliances or when the continuous, as opposed to the intermittent rate steadily exceeds 200 cu. ft./hour.

Meter cupboards

Domestic meters may be of two types, credit and prepayment, and dimensions are shown in Fig. 10 together with cupboard sizes to accommodate them, allowing sufficient space for pipes, fittings and controls and manipulation for exchanging purposes.

Height of meter

In both cases the height at which the meter is fitted is important and should be such that the index dial on the front of the meter may be easily seen for recording purposes, and if coin-operated, the user can easily and readily insert coins.

The most satisfactory position found in practice is one in which the meter is located 4 ft. 6 in. from floor level. If for some reason this is not practicable, the shelf height should not be less than 2 ft. 6 in. from floor level.

It has already been mentioned that the service pipe should rise to the meter, or in other words the meter should be higher than the supply main. This arrangement is a precaution to obviate any possibility of condensation that may occur in the service pipe, entering the meter.

To overcome the problem of access to premises for meter reading purposes, the meter can be sited with the index dial located against a glazed observation opening to enable the meter index to be read from outside the premises. Fig. 11.

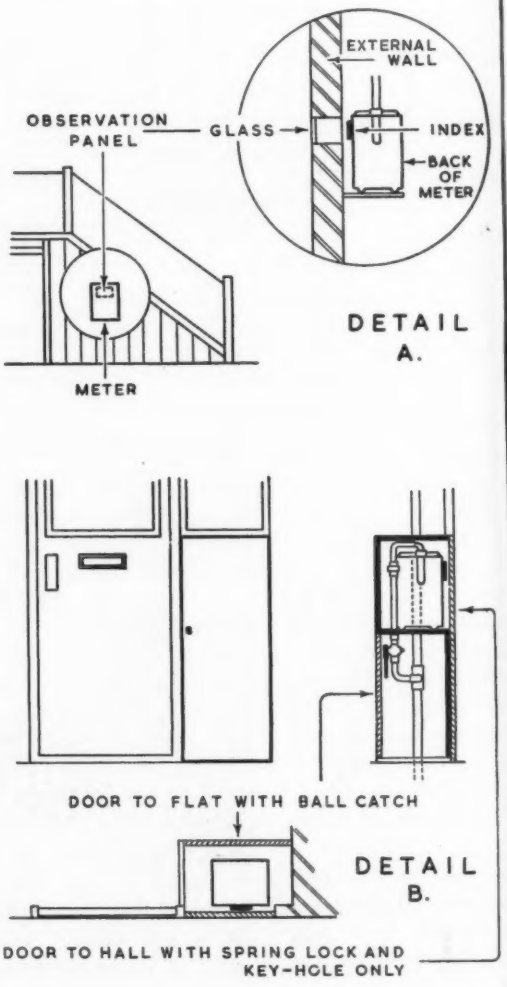
Meter supports

Typical support methods are illustrated in Fig. 12. The meter bracket method is the most common for supporting meters and is used in various forms for all except the largest sizes. The insulated brackets which are very neat in appearance are available for the two domestic size meters. Larger meters are nearly always fixed on the floor.

Consumer control

In addition to any service valve, as already described, a consumer control is always provided as close as possible to the meter on its inlet side. The purpose of this is to control the supply while the meter is being serviced or replaced, and is also for the convenience of the user as and when it may be necessary to turn off the supply of gas.

Fig. 11. *Meter-reading from outside premises.*



gas supplement

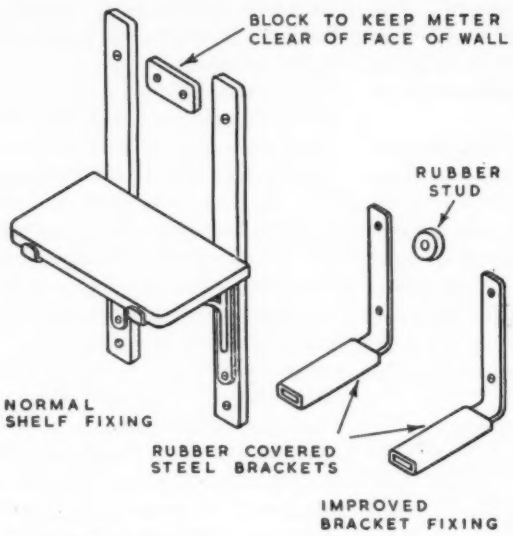


Fig. 12. Meter supports.

Internal Installation pipe(s)

The term "installation pipes(s)" means all pipes between the consumer control and the points at which the appliances are to be connected. It is desirable that the principal pipes in an installation should allow for any reasonable future extensions in the use of gas which it is considered may be required. The size of all other internal installation pipes will be determined by the maximum gas rate of the appliances to be connected, due regard being given to the potential simultaneous demand.

The largest size pipes would extend direct from the outlet of the meter, and other smaller sizes, as needed, would be utilised for extension to individual appliances to be installed.

The principle can be likened to the artery system of the human body, or to the structure of a normal tree, with its trunk, branches and twigs.

Recommended practise permits a pressure drop between the outlet of the meter and the most remote gas point of 3/10 in. water gauge. The tables below give the discharge figures for horizontal pipes and allowances against losses due to pipe fittings which are in common use by Gas Engineers.

Table of discharge of straight horizontal pipes. Discharge of gas in cu. ft./hr.
Assuming medium tube to BSS 1387; a gas density of 0·5 relative to air and $\frac{3}{10}$ in. pressure differential

	Length of pipe in feet														
Pipe size in inches (non bore)	10	20	30	40	50	60	70	80	90	100	125	150	175	200	250
¼	34														
⅜	25	12													
½	55	39	32												
¾	108	76	62	54											
1	225	160	130	110	100	92	83								
1¼	470	330	270	235	210	190	175	165	155	145					
1½	930	655	535	465	415	380	350	330	310	295	260	240	220	205	185
2	1,300	920	750	650	580	530	490	460	435	415	370	340	310	290	260
2½	2,640	1,865	1,525	1,320	1,180	1,075	995	930	880	835	745	680	630	590	530
3	5,055	3,575	2,920	2,525	2,260	2,065	1,910	1,785	1,685	1,600	1,430	1,305	1,210	1,130	1,010
4	8,240	5,830	4,760	4,120	3,685	3,365	3,115	2,915	2,750	2,605	2,330	2,130	1,970	1,840	1,650
6	18,320	12,960	10,580	9,160	8,200	7,480	6,930	6,480	6,110	5,800	5,180	4,730	4,380	4,100	3,670
	50,510	35,710	29,160	25,230	22,580	20,630	19,050	17,850	16,830	15,970	14,280	13,030	12,079	11,290	10,100

Table of losses due to pipe fittings. Discharge of gas in cu. ft./hr.
Additions to be made to overall length of pipe in ft. for increased resistance

Size of pipe	*Elbows* 90°	*Bends* 90°	*Tee (gas entering centre of tee)*	*Tee (gas entering run)*
½ in.–1 in.	2	1	5	4
1¼ in.–1½ in.	3	1	8	6
2 in.	5	2	10	8
2½ in.	6	3	13	9
3 in.	8	3	15	11
4 in.	10	5	20	15
6 in.	15	7	30	23

From the table above, it will be observed that a 30 ft. length of 1 in. pipe would discharge 270 cu. ft. of gas an hour at 3/10 in. pressure loss. A 30 ft. length of ¾ in. pipe would discharge 62 cu. ft. of gas an hour at 3/10 in. pressure loss.

There are a number of factors to be taken into account when planning an installation pipe system, *i.e.*, the gas rates of the appliances, the intermittent or continuous use of them, the diversity of their use, the carrying capacity of the pipes, the frictional losses of the pipes and fittings, and for these reasons Area Boards have technical representatives available to advise and assist in the design and layout of installations.

Gas-pipe Fixing

Gas piping should be fixed so as to be secure and prevent sagging, one clip to a maximum of 5 ft. being sufficient for all sizes of steel and copper pipes. The range of pipe fixings available are illustrated in Fig. 13. The use of the pipe hook should be restricted to iron or steel pipework in chases or ducts, and can only really be used on a nail-holding surface. Strapped pipe fittings are neat but require careful placing in order to ensure that support is supplied only in the places required.

Split ring fittings are available in component form, *i.e.*, extension pieces, back plates, ceiling plates, double fixing rings, etc., which can be assembled to give a wide variety of fixing accessories. Four examples are given in Fig. 13. D.E.F. & G.

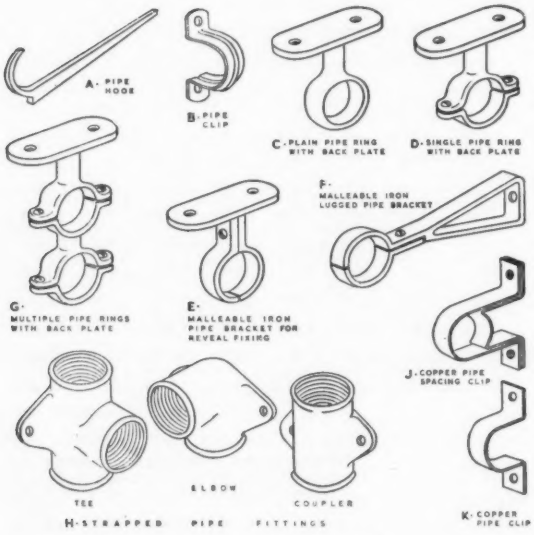


Fig. 13. Types of pipe fixings and fittings.

Protection of pipes

There are differences of opinion about the advantages and disadvantages of concealing or burying pipes. The majority prefer to conceal them, but there are some authorities who insist upon them being exposed and some require pipes to be fixed clear of the wall to enable them to be easily cleaned and painted. There are similar differences of opinion over buried pipes, and pipes in ducts. Both require adequate protection against corrosion.

Horizontal access ducts once considered preferable for pipe runs, are now regarded with some suspicion. Much money can be spent on elaborate provisions of removable covers which are subsequently rarely used. The pipes in such ducts still require precautions against condensation, damp, freezing and corrosion.

The reduction of floor thicknesses and screed to floors, due to endeavours to reduce building costs and weight, causes considerable difficulties in obtaining sufficient cover for pipes, especially as very thin finishes are applied nowadays to floors. For example, plastic tiles allow little or no tolerance should pipes protrude on an uneven structural floor.

In multi-storey building the pot floor and screed is tending to give way to solid reinforced concrete floors, site poured or constructed of precast floor beams. When the floor is poured on site the pipes can be accommodated but accurately placed in the neutral axis or middle third of the floor with the points extended up to the appropriate positions. The normal thin screed over precast beams cannot always accommodate the pipes and they must then be laid in the angle between the floor and wall or even chased into the base of the wall.

When floor warming is used it may not be possible to accommodate gas piping in the floor at all and a wall chase is then the only solution. In cross wall construction the chase is generally possible only in the infil walls. An overhead piping system can be employed in maisonettes where often the floor above the kitchen is a suspended wooden floor of joists and boards.

It should be noted that gas installation pipes properly planned and installed, have an extremely long life. In fact, they may be expected, under normal conditions, to last the life of the premises in which they are installed.

Pipes laid through walls and floors

Reference has been made previously to the techniques employed where service pipes are laid through external walls.

Precautions are also necessary when installation pipes are required to pass through internal walls and floors, and also when laid in solid floors and walls. As with other services using iron and steel pipes, such as water, electricity conduits, etc., protection of a varying nature is required according to the particular circumstances.

Pipes in composition floors and walls

Composition floors, walls and skirtings are common. Most of these materials, particularly those composed of magnesium oxychloride, have a corrosive effect on unprotected steel and wrought iron. In the case of magnesium oxychloride floors the corrosion is even more marked when water is present, either from continued washing down of the floor or subsequent

to be exposed whether rigid or flexible, a careful selection from the materials and fittings mentioned may be used to improve appearances.
The following examples are typical of some of the techniques employed.

Cookers
It is common practice to make rigid connections to gas cookers which ensures the stability of the cooker and that it is level at all times. Modern gas cookers fit tight against the wall because the oven flue outlet faces forward. For those who wish to have the cooker made withdrawable, for easy cleaning, an armoured flexible hose can be used.
It is impracticable to make concealed connections, but complete screening of the final connection can be effected if the point is located in the wall behind the position of the cooker and approximately 18 in. from the finished floor.

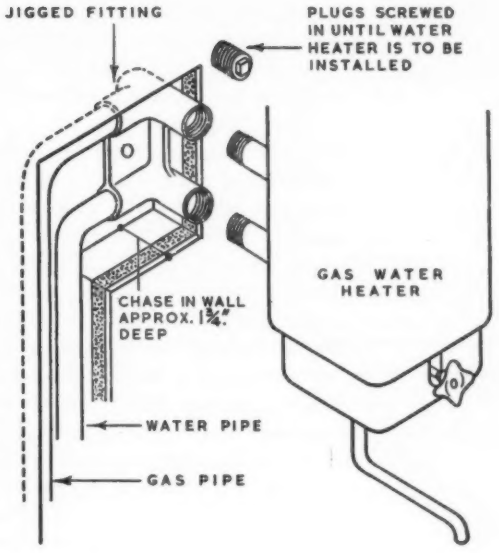
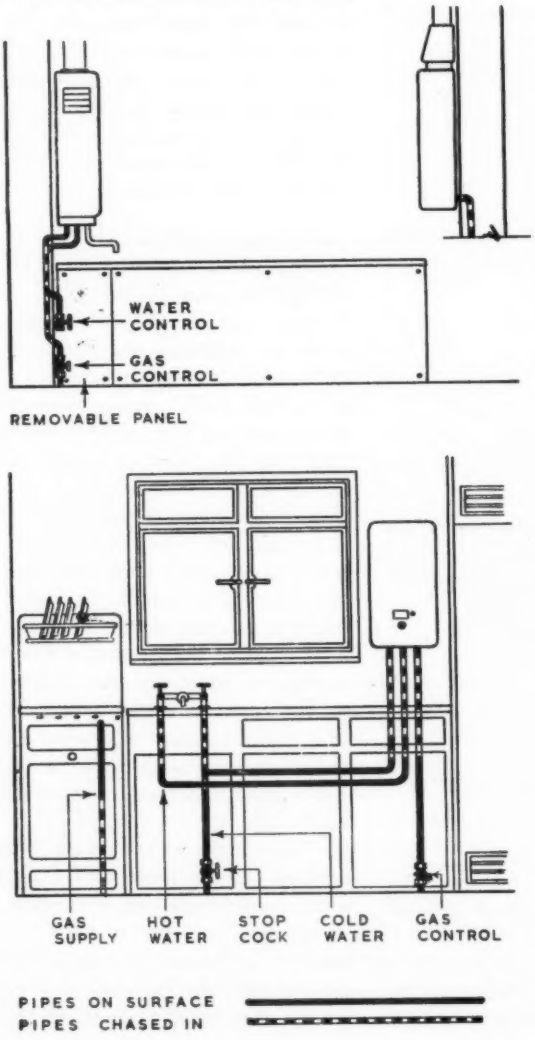


Fig. 16. Jigged fitting.

Fig. 15. Concealed gas and water supplies.



Multi-point and single point water heaters—storage and instantaneous types
Planning and co-operation with the other services involved can often achieve extremely neat and simple connections to these appliances.
In many cases integral controls for gas are incorporated in the appliances and an additional separate control may be unnecessary. This is particularly so when the consumer control at the meter and/or the main stop cock on the water supply is close to the appliance to be fitted.
Should it be necessary or desirable to provide these items, however, they can in many cases be accommodated in adjacent cupboards where they will be hidden from view, Fig. 15.
A number of manufacturers now design sink water heaters which may be connected directly to a special jigged gas and water fitting, which can be fixed to the structure before plastering. These fittings ensure the accurate positioning of pipe connections with those of the appliance, see Fig. 16. In most cases no other support is needed for the appliance. Where windows present support problems for fixing sink water heaters, special pillars which include gas and water connections are available.

Space heaters
Gas fires: By siting the point to be provided for a hearth type fire in the opening to receive the fire, the final connection to the heater may be completely concealed.
The same principle applies to panel type fires. In this case the point from the floor line will need to be chased a short distance in the wall, Fig. 17(c).

seepage through cracks, or dampness present in basements and passages in which the pipes are laid. It is important, therefore, to ensure that pipes laid in these materials are adequately protected, as recommended in BINC CP March, 1938.

Pipes in these circumstances should be heavy pipe (BS.1387) of not less than ½ in. bore, and should be protected by one of the following methods which are given in order of effectiveness:

1. *Pitched troughing*: is the name given to pitched or bitumen coating on the pipe. It should be of sufficient thickness to withstand any tendency to damage or fracture during the subsequent progress of works. Where the pipes are not laid in a suitable chase, simple cardboard moulds can be used into which the pitch is poured to form an even coating round the pipes.

2. *Bituminous paint* of various proprietary brands are available, which are specially designed for the purpose. The use for which the paint is intended should be made clear when ordering, since many types of bituminous paint are unsuitable. It should be applied to the pipe in an unbroken coat and allowed to dry. The pipe should then be surrounded by a 3:1 sand/cement mixture with at least ½ in. covering all round the pipe. On no account should aggregate or breeze be used where damp conditions are likely as they are highly corrosive to steel. The sand and cement rendering must be allowed completely to dry before the floor is laid. In exceptional cases where frequent washing down or extreme dampness from soil conditions is likely, heavy-weight lead pipe should be used in place of steel or wrought iron.

Pipes which need to pass vertically through corrosive-type floors may be protected by the use of a short lead sleeve, Fig. 14.

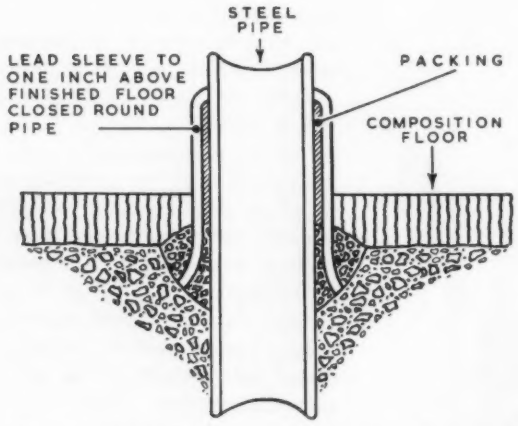


Fig. 14. Lead sleeve protection for steel pipes in composition floors.

Pipes in plastered walls and partitions

Pipes are also subject to corrosion, but to a lesser degree, when in contact with most types of plaster. Corrosion risks are normally small, even bearing in mind the inevitable water used in construction, but are higher in walls permanently exposed to damp, *e.g.* wash-houses, kitchens, bathrooms and so on. Where possible, such pipes should be in a chase of sufficient depth to ensure that no part comes in contact with the plaster. Where contact is unavoidable, the pipes should be coated with a protective paint, preferably red lead. Before the application of any coating the surface of the metal pipe must be thoroughly cleaned and freed from rust and loose scale. Alternatively, plastic coated copper pipe may be used. Where the wall or partition is of breeze block, or other corrosive material, the chase behind the pipe must be filled with a 3:1 sand and cement mix.

In some cases gas pipes laid in wall chases will be in close proximity to hot water pipes. Expansion and contraction, due to temperature changes, may occur and the gas pipe, in common with the hot water pipe, should be wrapped with paper before embedding in the plaster to allow free movement of the pipe.

Small pipes to points for brackets, background heaters, refrigerators and other very low consumption appliances should be not less than ¼ in. size when buried or otherwise concealed.

Pipes in timber floors

Pipes should not, if avoidable, be laid across the line of joists, but where imperative they should be kept as near to the supporting wall as is convenient in the zone of sheer stress rather than that of bending. Any notches cut across the joists should be of limited depth. Particular care in this respect must be exercised when dealing with alterations and additions to existing property where the stresses may be high.

Connections to appliances

The appliances to be considered under this heading fall into two main groups:

1. Those, such as refrigerators, radiant heaters, wash boilers etc., which operate with a gas supply only, and

2. Those, such as water heaters, central heating and air heating units, multi purpose heat service units, certain types of cookers and washing machines, etc., which function in conjunction with other services, such as water and electricity.

It is thought desirable to mention this fact because of the need for close co-ordination of the services concerned to produce a satisfactory installation.

The foregoing paragraphs have described the general principles involved in providing the installation pipes in premises. If the installation has been planned and carried out effectively, the position of the various points for final connection to appliances will have been sited in such a manner as to allow simple and unobtrusive connections to be made. In fact, in some cases, it is possible to achieve complete concealment of the connections.

The connections to appliances, even when they are exposed, can be made neat and simple, especially when control taps and stop cocks, which are not always necessary, can be omitted.

When it is possible to make concealed connections, use can generally be made of the same material as for the pipe installation. When the connections are

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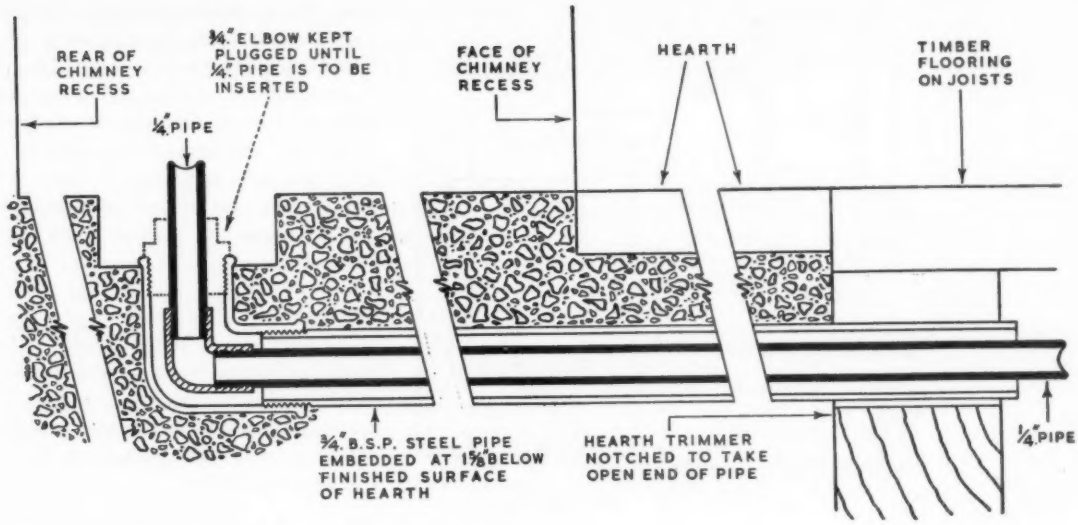


Fig. 17 (a). Concealed connection using sleeve method.

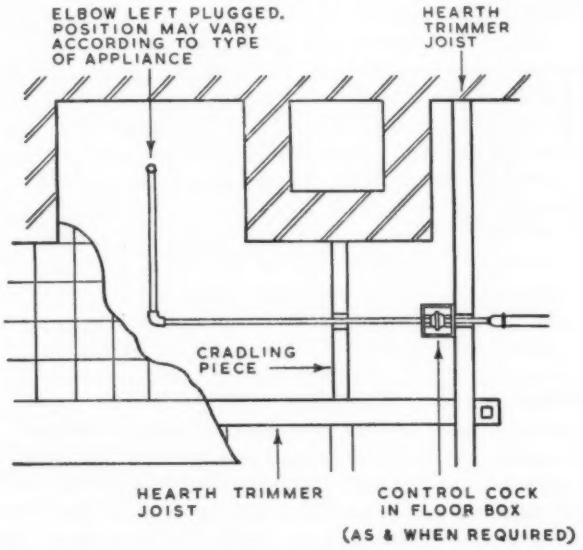
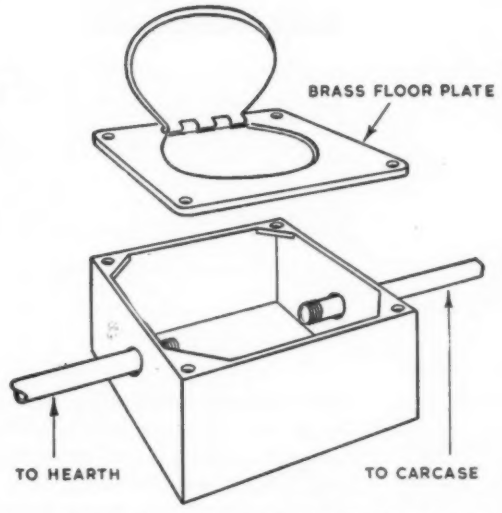


Fig. 17 (b). Concealed connection using normal method.



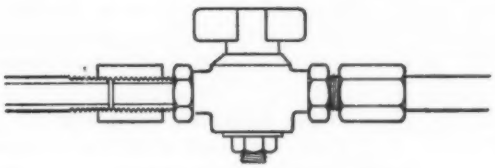
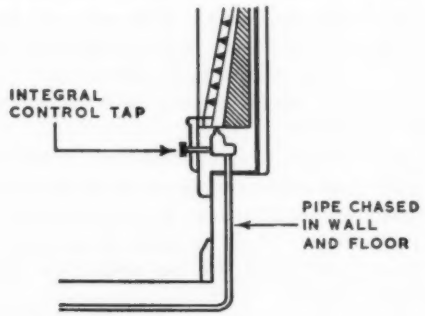
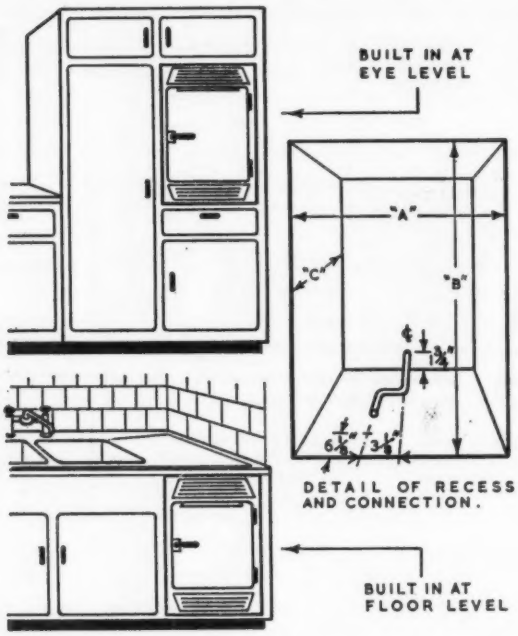


Fig. 17 (d). Floor box and double connector cock.

Fig. 17 (c). Concealed connection to panel fire.



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INSTALLATION DATA.	SIZE 1.	SIZE 2.
CAPACITY. – CU. FT.	1·7	2·75
WIDTH. "A." – INCHES.	20⅝	21¾
HEIGHT. "B." – "	32	34⅝
DEPTH. "C." – "	20	23¾
GAS CONNECTION.	⅛" B.S.P.T.	⅛" B.S.P.T.

Fig. 18. Connection to built-in refrigerator.

Solid fuel appliances with integral ignition burner

Much the same principles are employed to make concealed connections to these appliances as to gas-fires, except that provision has to be made for an external control. It must also be borne in mind that the pipe under the hearth may be subjected to intense heat and for this reason the gas pipe should be enclosed in one of a larger size to provide a measure of insulation and means of easy renewal, see Fig. 17(a).

Clothes drying and airing units

These appliances which are available as units to be built-in to site constructed cupboards require the ¼ in. point to be sited on the floor to the front of the cupboard on the right-hand side. The connection being made along the front of the heating unit behind the air inlet louvre. All the connections will naturally be enclosed in the cupboard when the door is shut.

Multi-purpose heat service units

Up to the present time, appliances which form the basic heat services in the average home have been of an individual character, but now there is a marked trend towards the introduction and development of multi-purpose heat service units of a packaged type. Apparatus of this kind, combining space heating, hot water, clothes drying and airing are already available. There is little doubt that this trend will continue and the adoption of such units will call for new techniques to be employed in future planning and will have a tendency towards reducing the number of individual points and appliances to be provided and installed. The same basic principles of installation will remain, however, but the use of such units will demand a greater degree of co-ordination of the services engaged.

Refrigerators

If the appliance is of the "built-in" type the whole of the installation pipes and connections may be completely concealed, Fig. 18.

As the gas rate of a refrigerator is so small, ¼-in. bore copper is quite large enough for the connections to free standing models.

PORTABLE APPLIANCES

Flexible tubes, plug and socket connectors

The attention which has been devoted to the design of several transportable gas appliances, chief of which are washing machines, wash boilers, space heaters, solid fuel fire lighters, etc., combined with the provision of reliable flexible tubes used with plug-in connectors, has done much to increase their popularity and use.

It is impracticable to make rigid connections to these appliances, but good use can be made of the "plug-in" types of connection which are now available.

Large numbers of various types of plug and socket connectors have been produced and installed during recent years, and while there has been a measure of interchangeability of the plug and the socket sections, this has been confined generally to the individual areas of the supply undertakings. A British Standard will eventually cover the design and provision of these fittings.

These fittings are available in various forms to meet the differing requirements of the user and the particular circumstances under which they are to be fitted. Figure 19 shows three of the basic types in general use and it will be noted that some have integral controls.

gas supplement

While socket outlets may be accommodated in many places in the average home, the most popular are:
(*a*) The kitchen for washing machine, wash boiler or poker for igniting solid fuel boiler, and
(*b*) The living rooms for solid fuel ignition and portable heaters. (Fig. 20.)
In considering the positions of these fittings it is always desirable to locate the socket so that the flexible tubes hang straight with as few bends as possible in order to avoid strain on the tube. This can often be achieved, either by using socket types, as shown in Figure 19 (*a*) and (*b*), fixed so that the mouth of the socket is downwards, or by adding an elbow to the plug, as shown in Figure 21.
For use with washing machines and wash boilers, a socket located 15 in. from floor level will be found a most convenient height.

Ignition devices

Since January 1, 1959, all gas cookers have had to be equipped with automatic ignition on the hotplate to qualify for the Gas Council's Seal of Approval, the reason being particularly that cooker hotplates are used more frequently than any other appliances and the convenience of automatic ignition also provides a useful safety feature. Automatic ignition in one form or another is also available in most other gas appliances, such as water heaters, central heating units and fires. This may consist of a small pilot flame which ignites the burners through "flash tubes," or via an automatic valve and in more recent designs, electric filaments which use an infinitesimal amount of current. Many appliances, particularly cookers and heating equipment are now supplied with automatic timing devices to switch them on and off at a predetermined time and it is therefore important that there is a safety device to prevent the passage of gas to the main burners if for some reason the pilot or igniter fails. This is simply done by means of a bi-metallic strip or a thermo-electric device heated by a tiny burner which opens the main gas valve. In the event of the tiny burner failing the main supply of gas cannot pass.

Controls

Installations using gas space heating equipment, either for warm air or central heating, gain greatest economy through the use of thermostatic controls for room temperature often linked with outside temperature and also time clock controls. In planning buildings therefore, provision should be allowed for the fitting of the thermostats in suitable positions and their connection, by either wire or small bore copper tube, to the control valve at the appliance. Clock controls are normally fitted close to the heater in a convenient position for the user to set.

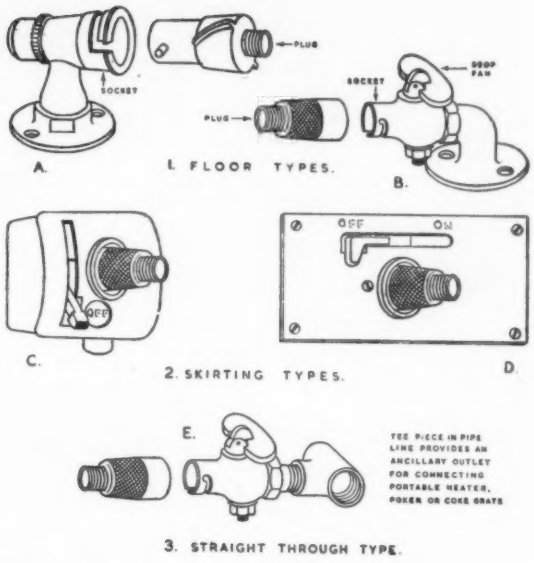


Fig. 19. *Flex sockets and plugs.*

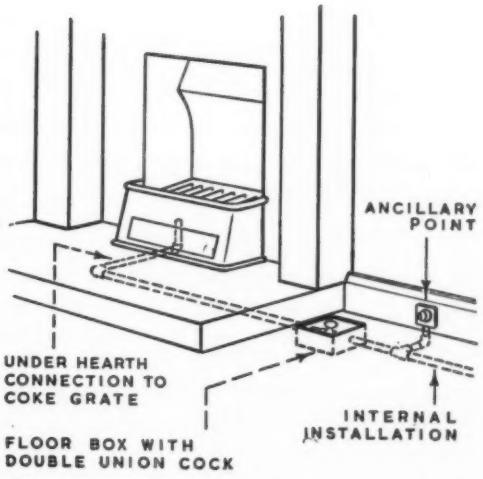
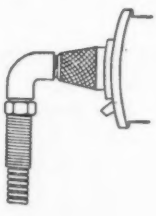


Fig. 20. *Provision of an ancillary point on skirting board.*

Fig. 21. *Use of elbow to avoid strain on flexible tube.*



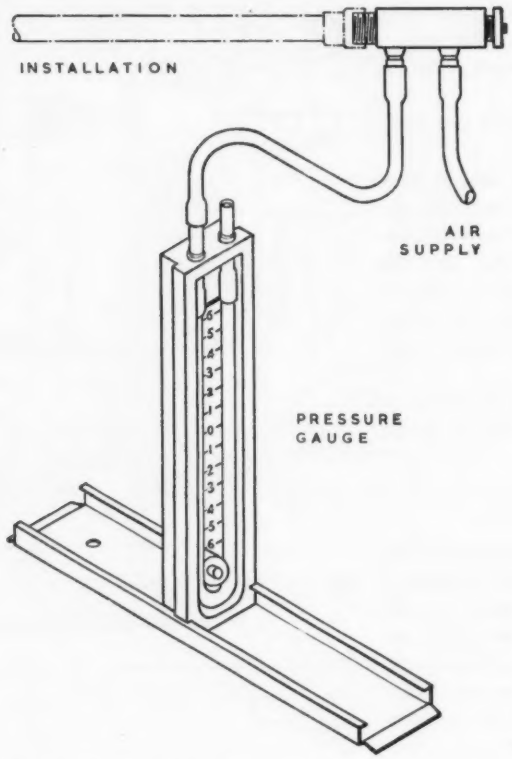


Fig. 22. Pressure testing set.

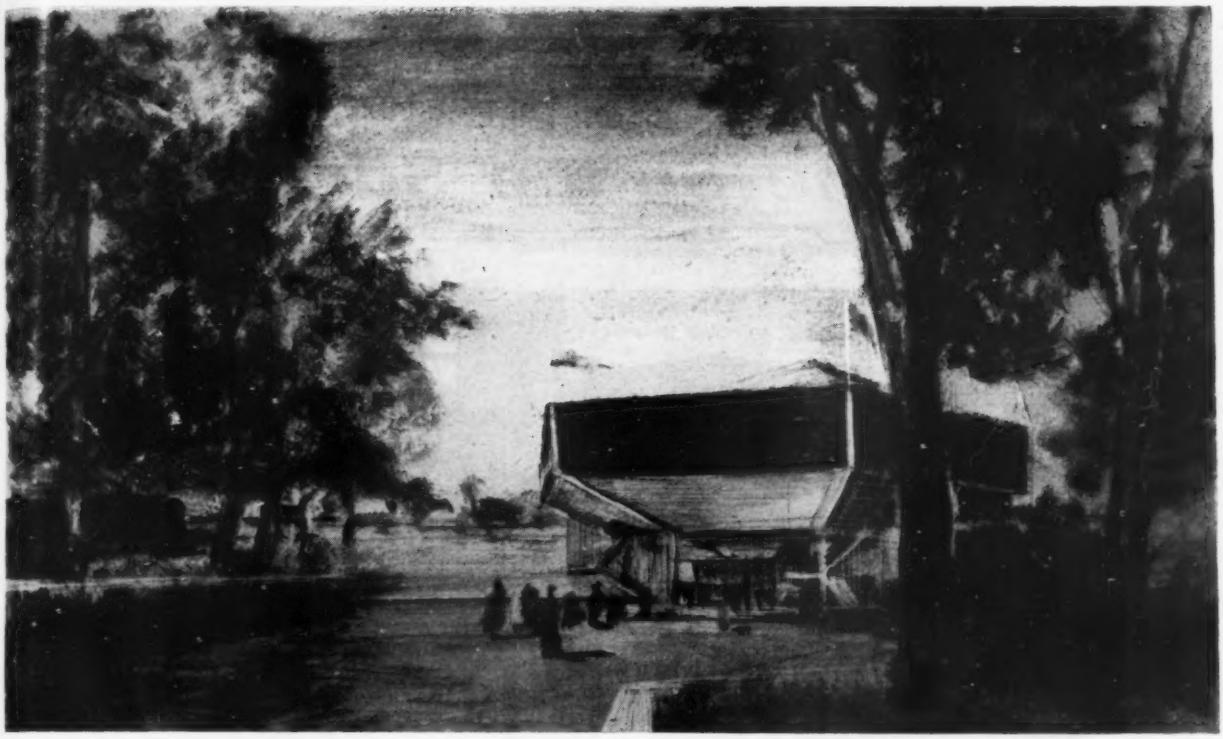
Installation testing

Immediately on completion, whether or not gas is available, any new installation or extension of an existing installation should be tested under air pressure. In installations where the pipes are to be covered by concrete, etc., it is desirable to test each section of the work as it proceeds. Air is used because it is possible to test at a pressure greater than that to which the installation would normally be subjected when containing gas. This ensures an adequate factor of safety. When testing domestic and other small low pressure installations, the pressure normally used is 6 in. water column or twice the maximum working pressure, whichever is the greater, although pipes which are to be embedded or subjected to higher pressures are tested accordingly. For instance, a service pipe is normally tested at a pressure of 12 in. water column, or twice the maximum working pressure, whichever is the greater.

The method of testing an installation is to seal it at all but one point to which a testing tee and U-gauge is attached, see Fig. 22.

Air is introduced into the installation until the gauge indicates a pressure slightly higher than that at which it is proposed to test. The air supply is then shut off and the gauge is allowed to stand for approximately 10 minutes. A sound installation will be indicated by the column of water remaining stationary.

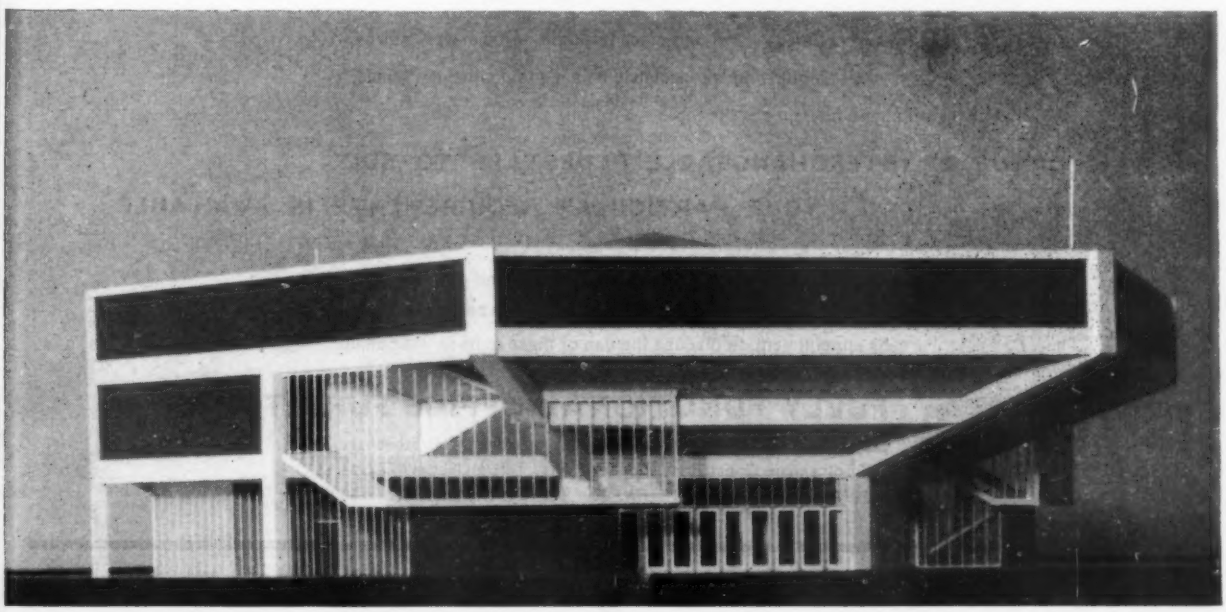
ELIZABETHAN THEATRE FOR CHICHESTER





Site plan

By abandoning the proscenium arch and providing a stage balcony, the Mermaid Theatre at Puddledock (AJ, *August 27, 1959*) *was the first to express the modern trend for a return to the Elizabethan form of theatre. As this theatre was built within the shell of an existing building it was impossible to carry the ideal to fulfilment and surround the players by the audience. Now, at Chichester, Powell and Moya (assisted by Christopher Stevens) have put forward the first proposals for a new theatre to seat* 1,400 *designed expressly to answer the requirements of the current trend towards Elizabethan presentation. The theatre is intended primarily for use during a Chichester Drama Festival to be held during summer months. The architects were bound by the necessity for a building which was initially cheap to build (about* £70,000) *and which could be extended in the future. It is envisaged that the bars and restaurant (if any) might be housed for*



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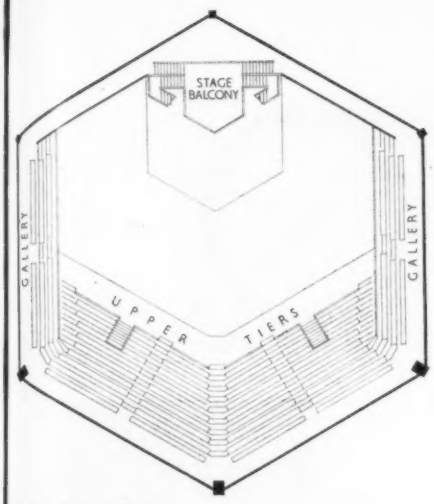
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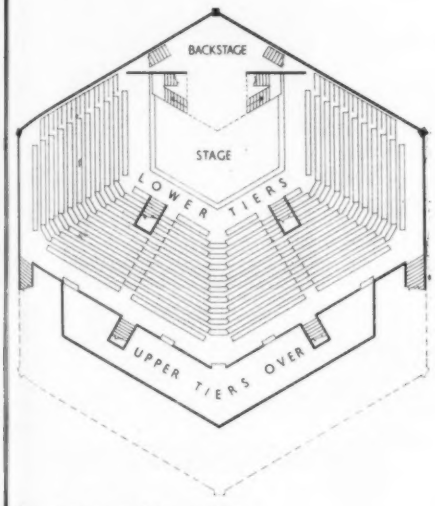
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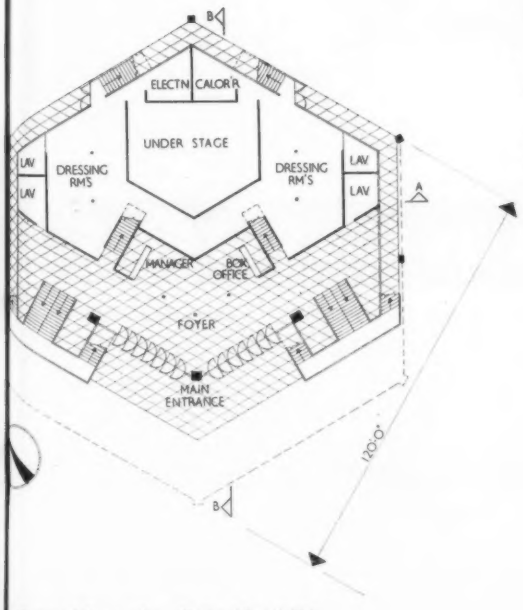
ELIZABETHAN THEATRE FOR CHICHESTER: continued



Plan at upper tiers



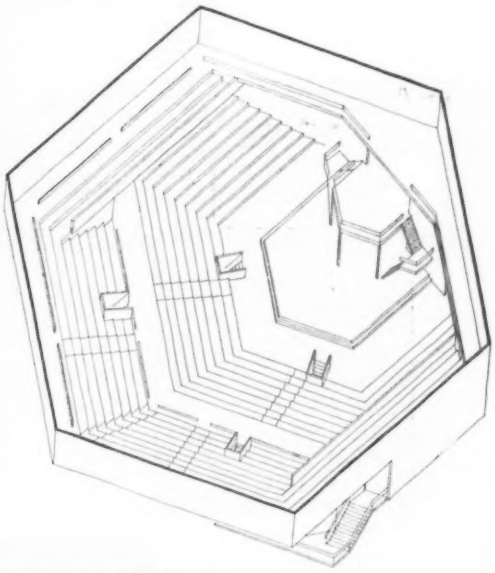
Plan at stage and lower tiers



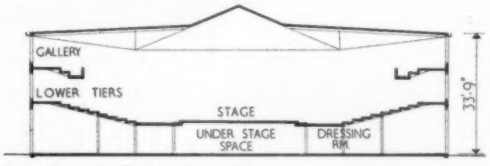
Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]



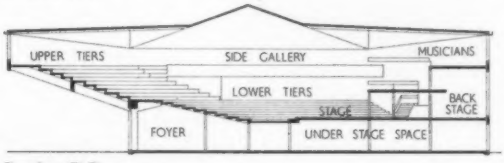
the first few seasons in tents which would eventually be replaced by permanent buildings extending westwards from the base of the auditorium. The architects' aim has been to express as clearly as possible the internal planning and design of the building. The underside of the tiered auditorium encompassing the stage will be clearly seen from the outside, raised on slender columns with a glazed space below forming the entrance foyer. In addition, the centre of the otherwise flat roof is to be raised by a lantern-like structure, visible from the ground, to dispel, in advance, any misgivings an historically expert but unduly pessimistic theatregoer may have about getting wet during the performance. The main supporting framework of the building is to consist of reinforced concrete columns, with a permanent exposed aggregate finish of a light colour. The roof structure is to consist of three steel cables (stressed to about 140 tons each) supported on the exterior reinforced concrete frame of the auditorium and supporting a steel lattice ring beam over the middle. Light steel and timber will form the infilling of the roof, the timber boarding being exposed internally. The roof covering is to be built-up roofing felt. The overhanging portion of the auditorium is not, strictly speaking, a cantilever and is partially supported by roof cables.



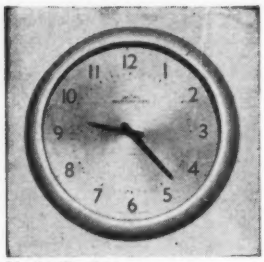
Axonometric view



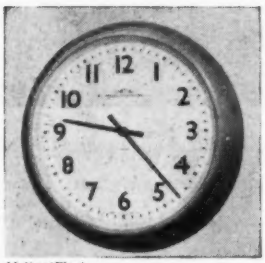
Section A-A [Scale: $\frac{1}{16}$" = 1' 0"]



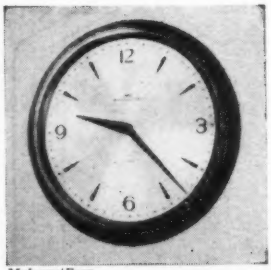
Section B-B



Mayfair/Farnham



Melton/Fleet

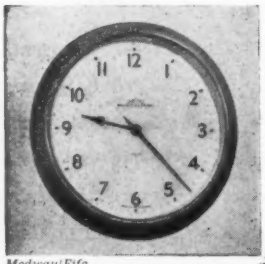


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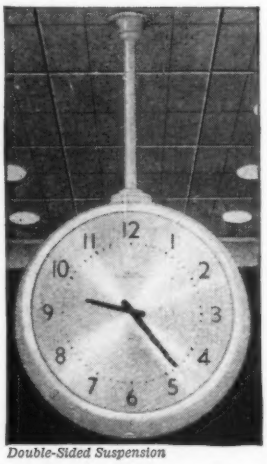
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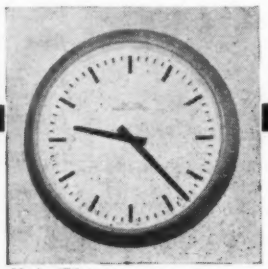
Medway/Fife

Monarch/Flint



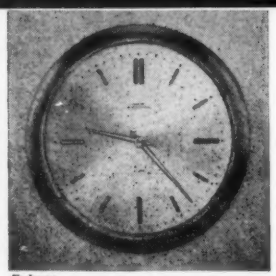


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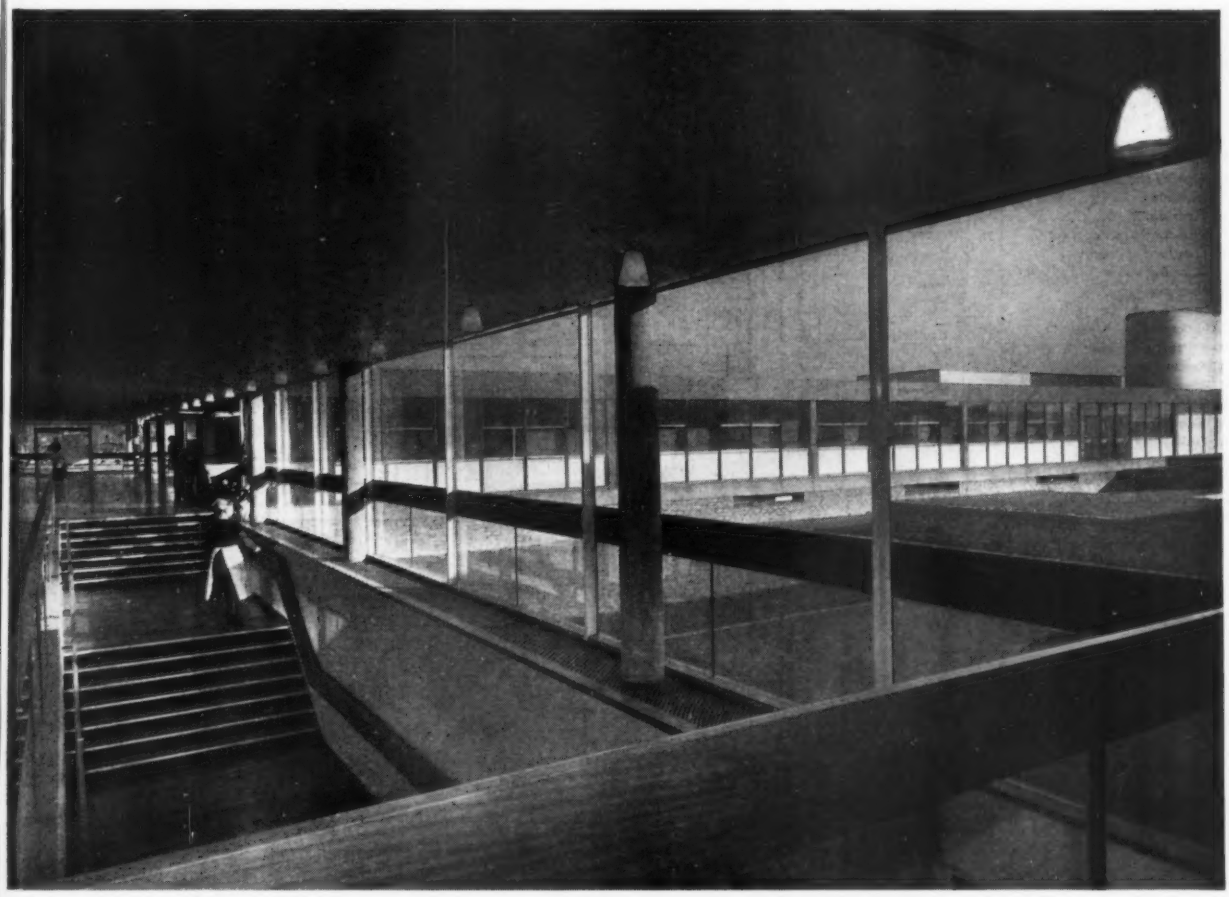
for the	OXFORD REGIONAL HOSPITAL BOARD
regional architect	W. J. JOBSON
designed by	POWELL AND MOYA
assistant architects	S. P. SKINNER, J. C. CALDERHEAD
consulting architect	R. LLEWELYN DAVIES
consulting structural engineers	OVE ARUP AND PARTNERS
consulting mechanical and electrical engineers	J. ROGER PRESTON AND PARTNERS
quantity surveyors	DAVIS, BELFIELD AND EVEREST

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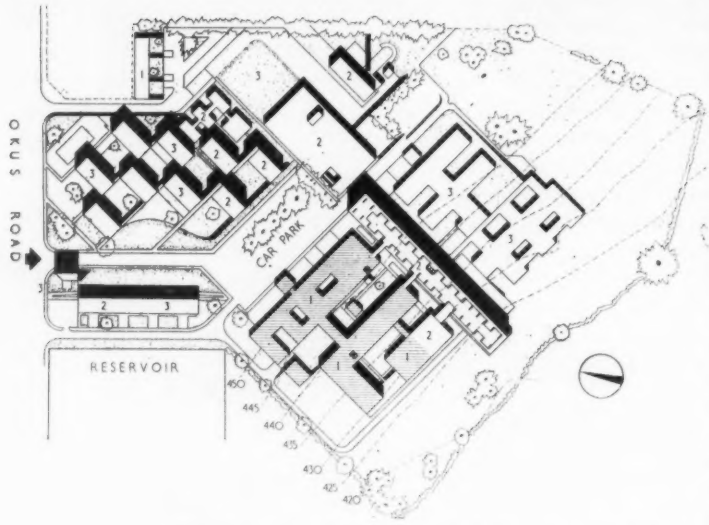
UDC No. 725·51

Princess Margaret Hospital at Swindon is a building of quite exceptional interest, being the first phase of the first new, large, general hospital to be finished. It marks the start of a large and very belated programme of hospital building. We therefore publish this illustrated account of it without waiting for a full scale cost analysis, which however will be published later, as soon as it becomes available.

Inside the main concourse, with the casualty block on the right.



building illustrated



Site plan, with phase one hatched; Nos. 2 and 3 indicate second and third phases

APPRAISAL: the importance of this project is not merely that it is the first major hospital building to be completed and occupied in this country since the war: more significant is the fact that the architects have achieved, against apparently heavy odds, a fresh and clear assessment of the problem of the design of general hospitals, and have translated this client's brief with a considerable measure of success into a distinguished building.

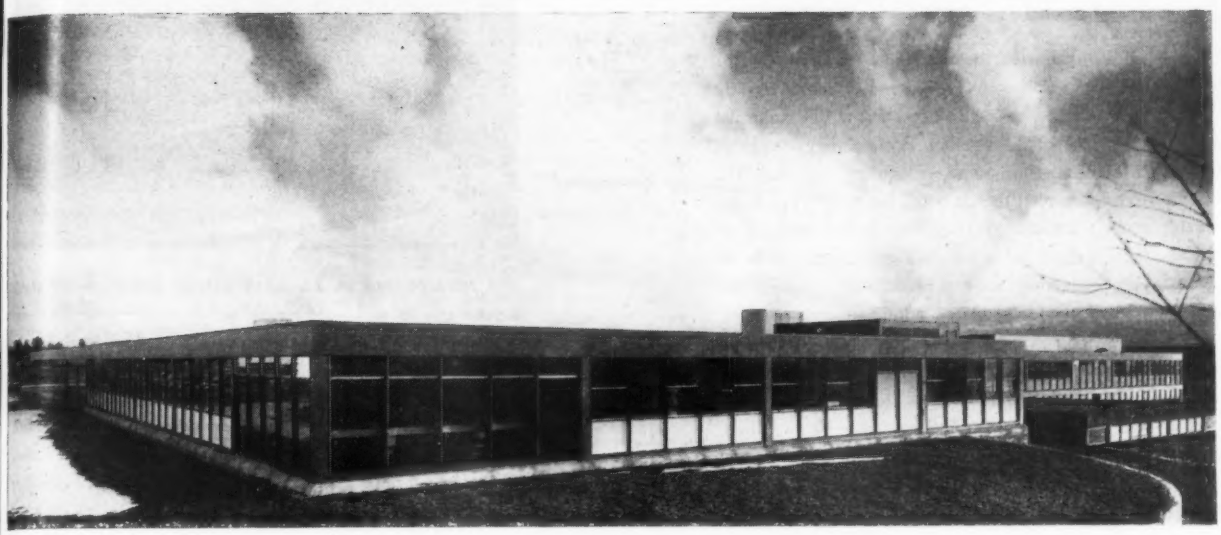
We are now at the start of a major hospital building programme in this country, after years of financial starvation, and it is almost inevitable in judging at this stage whether it will be successful or not, to make comparisons with the achievements since the war in the field of education. The fact that the client is not, apparently, organised in a way conducive to good building, and that financial control would seem to be on completely arbitrary lines, is discussed editorially in this issue. It is therefore sufficient to state here merely that the architects and the actual client involved in this building both recognise the urgent need for reform in these directions.

As a background to this, there is no up-to-date guide for the architect on the "brief" from the Ministry of Health, one of the few available sources being the Nuffield publication.

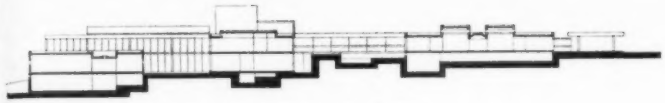
KEY
1. Office
2. Waiting
3. Pathologist
4. Formalin
5. Histology lab.
6. Haematology lab.
7. Sluice
8. Sterilising and media room
9. Bacteriology lab.
10. Biochemistry lab.
11. Post-mortem
12. Viewing room
13. Hall
14. X-Ray room
15. Chief Radiologist
16. Viewing and sorting
17. Sterilising
18. Clean up
19. Non-sterile store
20. Transformer room
21. Calorifier room
22. Plant and battery room
23. Lockers
24. Mortuary corridor
25. Plaster room
26. Anaesthetics
27. Orthopaedic theatre
28. Major theatre
29. Trolley bay
30. Surgeons' rest room
31. Sisters' rest room
32. Porters' w.c.
33. Linen store



Lower ground floor plan, with photo viewpoint numbers in circles [Scale: $\frac{1}{64}$" = 1' 0"

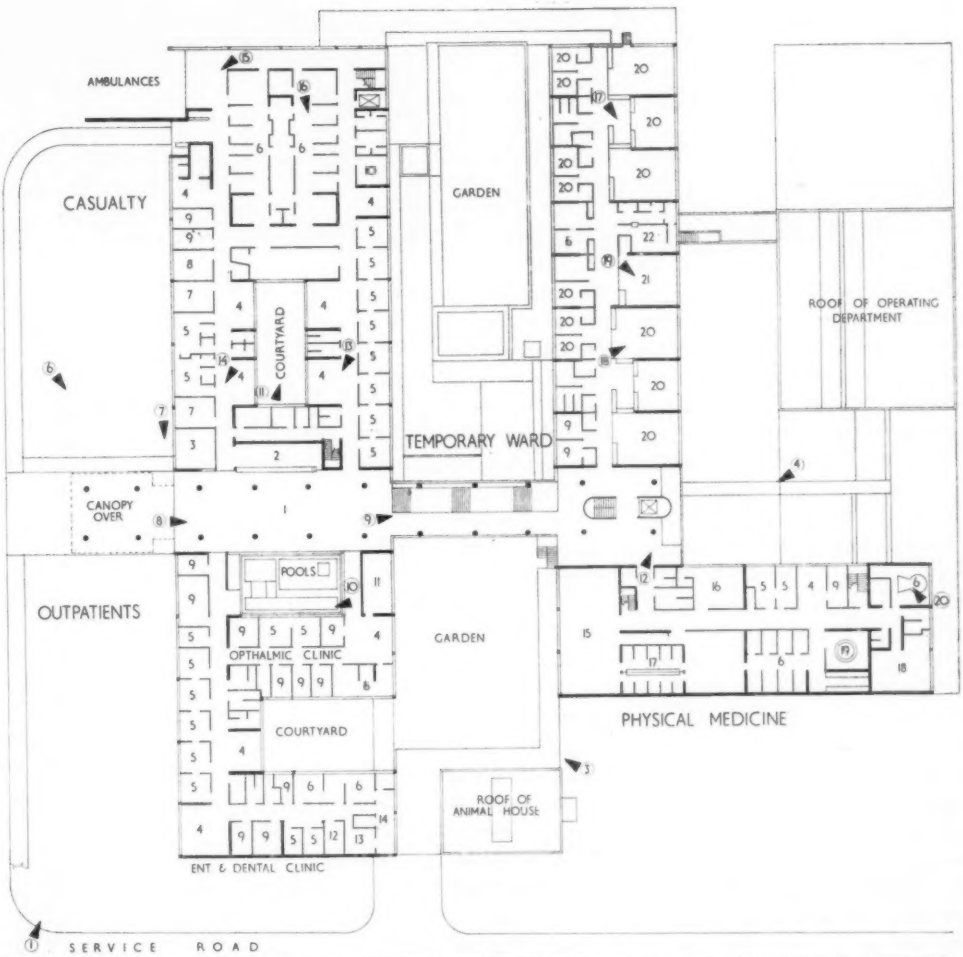


Viewpoint 1: the first phase is a series of blocks set roughly along the contours of a site which slopes steeply towards the south.



South-west to north-east section [Scale: 1/16" = 1' 0"]

KEY
1. Entrance hall
2. Reception
3. Pram store
4. Waiting
5. Consulting room
6. Treatment (cubicles and rooms)
7. Nurses' room
8. Recovery room
9. Office (Sister, Doctor, etc.)
10. Chiropody
11. Orthoptist
12. Audiometry
13. Deaf aid
14. Dental laboratory
15. Gymnasium
16. Spastic room
17. Changing cubicles
18. Occupational therapy
19. Sunlight room
20. Wards
21. Day space
22. Ward kitchen



Upper ground floor plan with photo viewpoint numbers in circles [Scale: 1/16" = 1' 0"

building illustrated

A further difficulty is that the functional requirements for medical treatment are currently changing far more rapidly and radically than is the case with education. The continual development of new medical techniques is perhaps the most obvious trend which the layman recognises, but from the point of view of hospital design there are others which are probably more significant. Perhaps the most important of these is the increase in out-patient treatment, with an accompanying reduction in the provision required for in-patients. And then, there are administrative changes, such as the one resulting from the new Bill on Mental Health, which will mean that mental hospitals will eventually disappear and each general hospital (as here) will have a department for this type of patient. And finally there are changes of organisational method within the hospital which have a fundamental effect upon planning, such as the adoption of centralised sterilisation in this particular project. The effect of this fluidity on the space requirements is clear. The traditional monument to medical science is completely outmoded and must be replaced by an entirely new type of architectural concept, which has not yet emerged and will take time to develop and mature. The project at Swindon is a significant step in this direction.

The first and basic decision by the architects has been to zone the site so as to achieve a rational but flexible layout for the various types of accommodation required. The site is on a ridge on the southern edge of Swindon, at a height of about 450 ft. above sea level. Access is from Okus Road, which runs roughly east-west along the ridge, and the part of the site nearest to it is completely flat, but broken by two parallel linear spoil heaps, leftovers from quarrying activities.

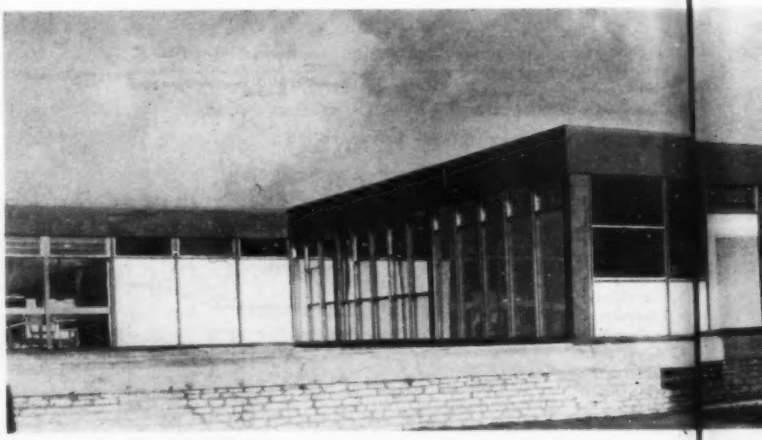
Beyond this plateau the site slopes away steeply to the south, with magnificent views of the countryside beyond. This part has been designated for the hospital proper, with the inherent advantages it offers of aspect and quiet. The flat part of the site nearest the road has been set aside for residential accommodation, which will be screened however, from the main access since this will be placed between the two mounds. The remainder of the plateau, towards the eastern boundary and away from the road, will be developed as the " industrial area " of the hospital, for laundry, kitchens, boiler house and the like. This was considered appropriate since this side adjoins land in industrial use. The site will also in due course provide accommodation for the Regional Hospital Board, and the architects in their preliminary layout have indicated for this purpose a tower block of offices close to the main entrance; this is not only a natural position for this building but it will act as a vertical feature punctuating the main road frontage.

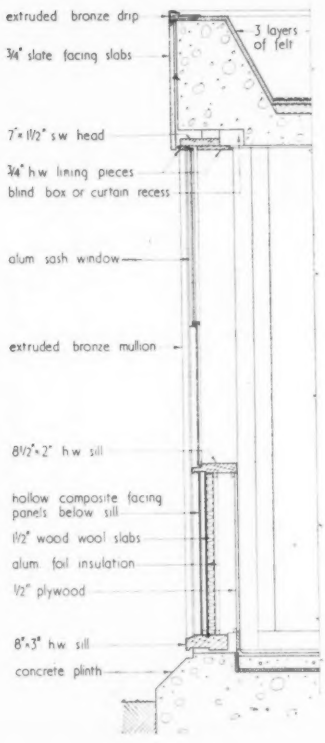
The precise size of the hospital ultimately required in terms of number of beds has not been rigidly defined, but is expected to be of the order of 500 to 600 beds. A more precise figure is apparently difficult for the client to provide, not only because of the growing emphasis, already mentioned, on out-patient treatment, but because there is very little statistical evidence available upon which the design of hospitals can at present be based. The Oxford Regional Board have, however, carried out their own survey.

The architects have divided the accommodation required for

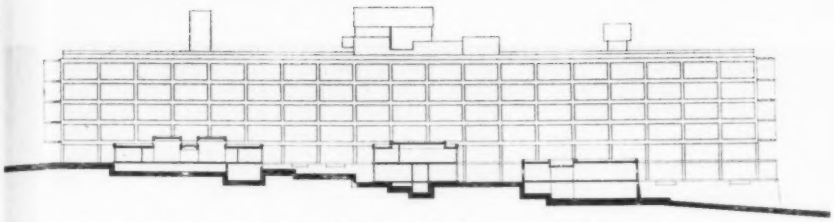


The entrance level on the north side, on which are all those departments to which the public has access for interview and treatment, runs through to become the first floor level on the south side, foreground, viewpoint 2 (above). The lower level is mainly devoted to non-public departments. The block on the right at this level houses the operating theatre suite. Towards the south each block is set on a plinth of rough, but coursed local stone. The space so formed, both semi-basement or full-height basement, is used for services and other ancillaries.

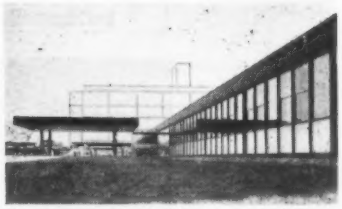




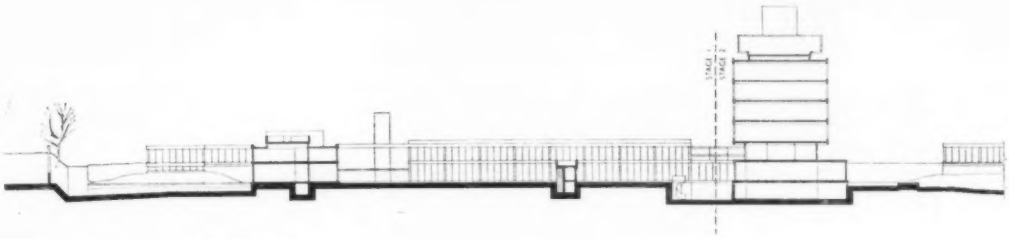
Section through external wall in single-storey block
[Scale: ½" = 1' 0"]



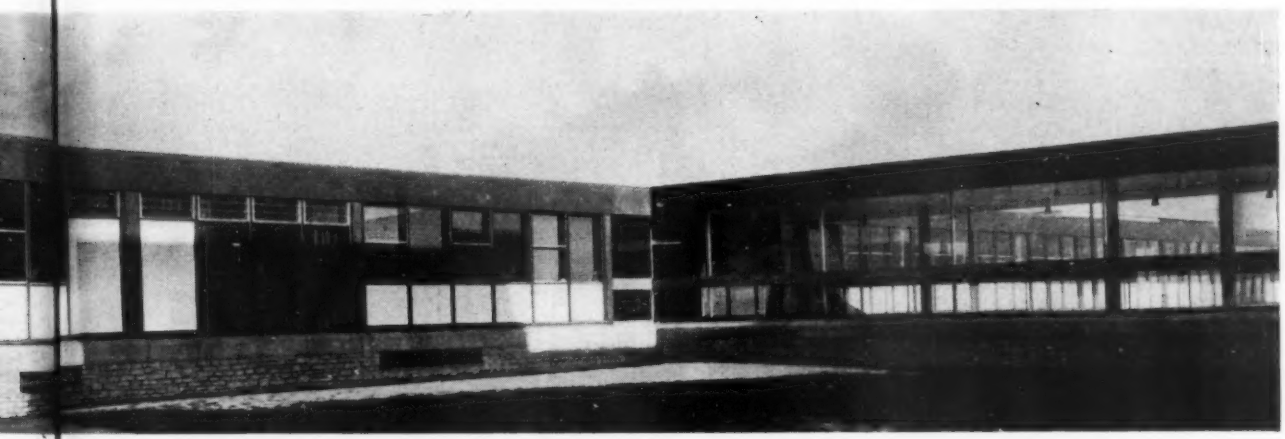
North-south section through phase 1, looking towards phase 2 [Scale: $\frac{1}{16}$" = 1' 0"]



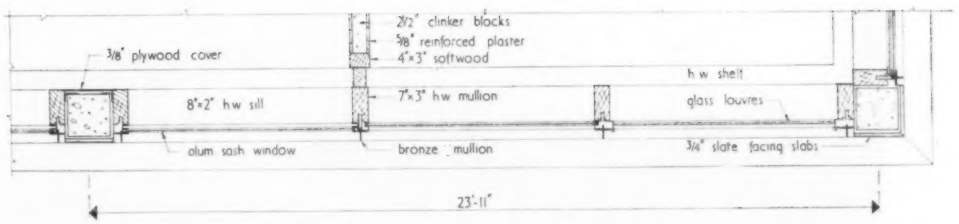
Looking east, with phase 2 superimposed beyond the entrance canopy.



West-east section [Scale: $\frac{1}{16}$" = 1' 0"]

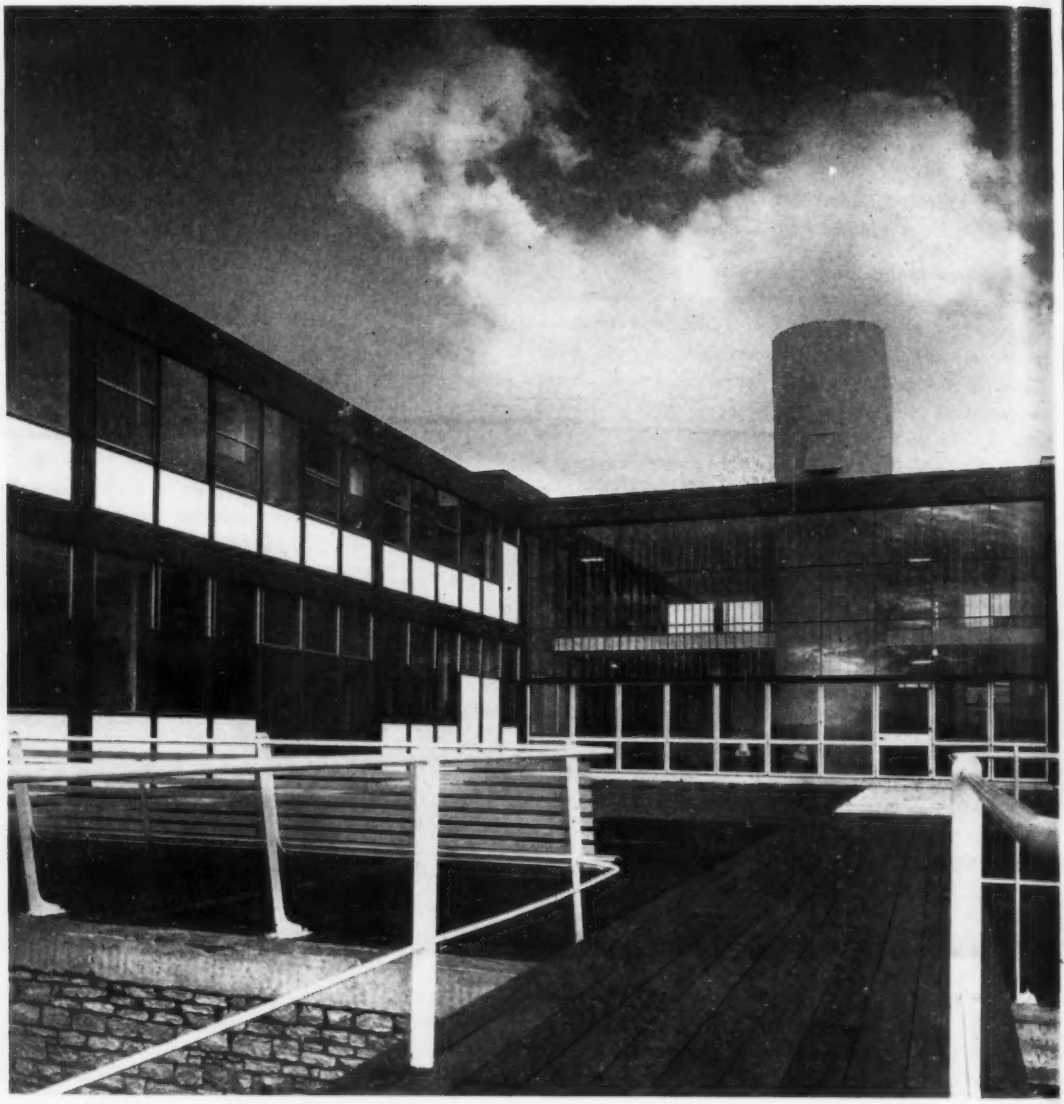


Viewpoint 3: the ophthalmic clinic from the east: external facings have been chosen for low maintenance, the concrete frame being finished with slate slabs, with bronze mullions, between. Windows are vertically sliding aluminium sashes, adjustable glass louvres and fixed double glazing. Solid panels below the sills are in white opaque glass throughout, with plastic-faced plywood inner skin and aluminium foil-backed wood-wool slabs between, for thermal insulation.

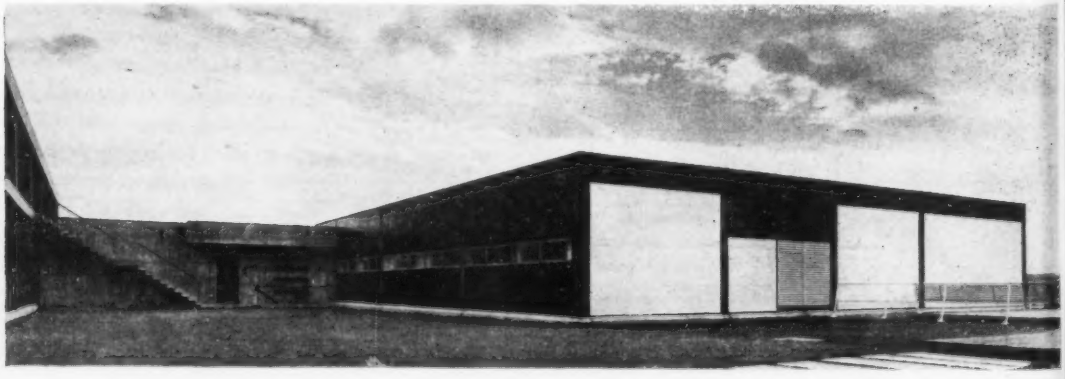


Part plan at window level in single-storey block [Scale: $\frac{3}{8}$" = 1' 0"]

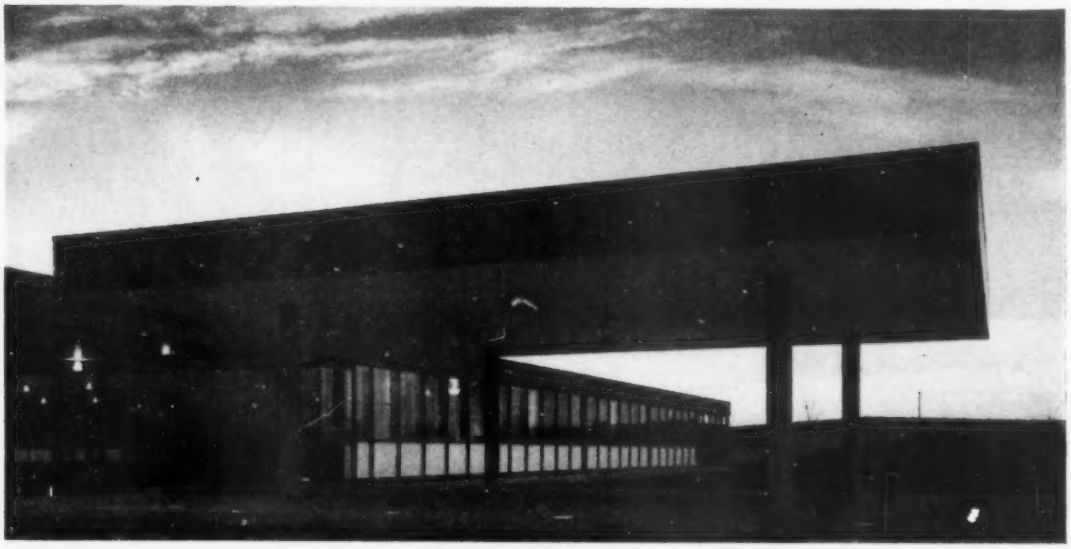
building illustrated



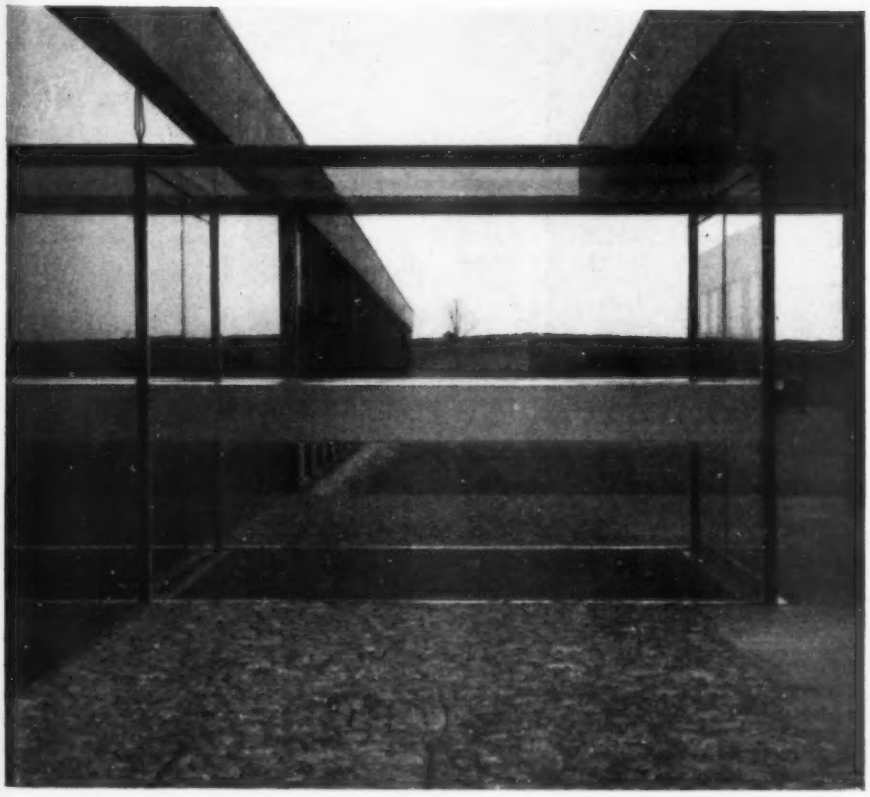
Viewpoint 4 (above): the layout has allowed the development of a whole series of semi-enclosed outside areas and courtyards. Since these, and the roofs of the first phase, will be visible from the upper levels of the multi-storey block in the second phase, care has been taken to develop a layout using a wide variety of materials on both, such as grey granite chippings, precast concrete tiles, and grass, sown on 9 in. of top soil. Viewpoint 5 (below): the operating theatre block at the lower end of the slope is air-conditioned and has strip view windows only, the remainder of the external cladding between the slate facings to the frame being in black and white matt tiles. The corridor linking the block to the rest of the building is of in-situ concrete, with boardmarks left exposed, and this finish is somewhat inconsistent with the rest of the exterior cladding.



the hospital into two main types. The first is that consisting of repetitive and multi-purpose spaces, such as the main body of the wards and the administrative offices. These lend themselves more readily to multi-storey development and in the overall plan have been placed in a slab block at right-angles to the contours, five storeys at the upper end, increasing down the slope to seven. The remainder of the accommodation, being of the more specialised kind, such as casualty, maternity and operating theatres, have been kept to single or two-storey blocks, and in the plan these have been set out roughly as fingers running along the contours out from the main block in both directions. The building of the hospital

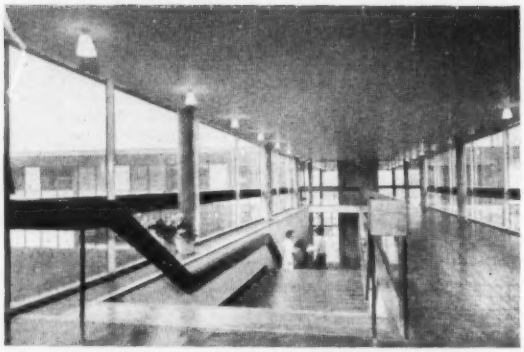


Viewpoint 6 (above): At the out-patients' entrance. On the north side of the building is a large free-standing canopy, lit at night by fittings recessed into the paving. Viewpoint 7 (below): A short link, which is fully glazed on all sides and on the roof, forms the draught lobby connecting the canopy to the main entrance hall.



building illustrated





Viewpoint 8 (*top*): *the main public concourse runs south across the slope from the out-patients' entrance, connecting the main blocks together and terminating with a view window overlooking the countryside beyond. It is, from the planning point of view, the essential feature of the first stage which renders the layout visible and comprehensible to the visitor. Special fluorescent fittings are used to indicate the various departments opening off the concourse.*



Viewpoint 9 (*top left*): *the concourse is fully glazed on either side between the blocks, and at the southern end there is a staircase leading down to the lower and non-public level. The general effect in this concourse is slightly marred by the floor finish of ribbed thermoplastic tiles, which appear both to show dirt rather readily and to be somewhat difficult to clean with mechanical equipment.*

Viewpoint 10 (*centre left*): *on the west side of the concourse, opposite to the main enquiry desk, a small courtyard has been developed as a multi-level pond, with spray jets, and interspersed with small-scale planting.*



Viewpoint 11 (*bottom left*): *in the centre of the Treatment and Casualty area is a further courtyard, entirely paved with a semi-representational tile mosaic of Christ healing the sick, designed by Philip Suffolk.*

has been phased; the multi-storey block will form the second phase, the lower blocks to the west of it, which will house maternity, children, old people, and isolation, are in the third phase. The first part, now completed and here illustrated, consists of those blocks to the east of the main building, providing accommodation for out-patients, casualty and treatment, records, physical medicine, X-ray and pathology departments, and operating theatres. Until the second stage can be occupied, the Records and Pharmacy section is in temporary use as wards, and a central sterilisation unit has been housed in the X-ray department.

The planning concept represented by this pattern of low blocks spreading from a central tall slab is one deliberately chosen by the architects, to permit greater freedom in the detailed planning of the more specialised departments, and to allow for changes as the building develops through its phases, without loosing over-all identity in the massing of the various blacks. They feel that this freedom of manoeuvre has already proved essential in carrying out the first phase, because of many detailed changes needed for medical reasons during working drawing stage. In addition, however, they feel that it is debatable whether the multi-storey ward block is always really the best method even for such repetitive units, because it will imply that the bed provision will be somewhat rigidly defined, and this in term may not be the ideal answer from the client's point of view.

The architects are thus furthering the development of an concept of the design of hospitals; a building which is mostly single storey, which can, as it were, grow and develop organically to meet the medical requirements, take account of the close interlocking of the various departments from the point of view of internal organisation, and yet allow flexibility for change of use as techniques of treatment alter. This is a formidable but very exciting challenge to the architect, not only in terms of the complexities of the planning of both the spaces themselves and their

Viewpoint 12 *(below): the view window at the south end of the main public concourse is finished internally with a screen formed of thin steel verticals on edge. Viewpoint* 13 *(right): each department has its own waiting space, in all cases formed as simple bays off the circulation. An appointments system has been adopted in an attempt to cut down the number of waiting patients. Viewpoint* 14 *(below right): the standard of detail is consistently high in its orderliness and simplicity, and a high standard of finishes has generally been achieved. Typical is this doorway detail, with careful consideration to the integration of lettering and ironmongery. In circulation spaces in the public areas a deep hardwood rail is provided on all walls, with a sheet plastic dado below, fixed with screws.*







services, but equally in the achievement of something more than an endless continuum of corridors and rooms, without meaning in either human or architectural terms. The hospital at Swindon can be regarded as an important and significant step in this direction.

Perhaps the most strikingly successful feature of this first phase is that the layout has been made comprehensible in spatial terms internally by the planning. The most important element in this is the main central circulation space running south from the out-patients' entrance and linking the blocks together. The block at the top of the slope and on the entrance side is single storey, but the space is carried through on the same level so that on the south side it is on the first floor, terminating with a full view window overlooking the countryside beyond. Between the blocks this circulation is completely glazed, so as to give as fully as possible the impression of moving from one independent building to another. In the rest of the public circulation areas the corridor effect is eliminated and an intimate scale developed by having small waiting bays opening directly out of circulation, with external windows with views out over the site, or on to internal courtyards. This detailed planning technique is one developed by the Nuffield Group in their projects. It has other obvious advantages over the traditional large waiting room in both organisational and human terms.

The slope of the site has been made into an asset in the multi-level planning of the first phase. The entrance level, which becomes the first floor of the lower blocks, is organised so that in the main it houses all the accommodation to which the public normally has access for consultation and treatment, while non-public departments, such as pathology, post mortem and operating theatres are at ground floor level on the lower side. In addition, the slope has allowed basements, either half or full height, to be provided on the lower side of each block, at no additional expense, for the housing of services, the provision of separate circulation to and from the mortuary, and for certain other ancillaries. In the case of the operating block, because of its position on the site, it has been readily possible to provide a full height basement beneath throughout, which the architects considered to be, in any case, a necessary requirement.

The major weakness of the scheme at its present stage, is that from the north side, being the direction from which the building is approached from the road, only a flat and slightly bleak single-storey facade is visible, which belies the scale of the scheme as a whole, and the charm and intimacy of the semi-enclosed outside spaces and internal courts beyond. This, of course, will be rectified when the multi-storey block has been built and the landscaping further developed.

The use of floor-slab heating, plus the provision of basements already mentioned, has resulted in an almost entire absence of exposed services. At the same time the architects have achieved a consistently high standard of detailing which is remarkable for its thoroughness, by which inessentials and awkward collisions are eliminated, and each small element is disciplined to the total architectural concept. They have thus avoided that fashionable, deliberate clumsiness, and equally that other type of clumsiness which can all too easily result from a lack of a clear and workable design policy in the larger office.



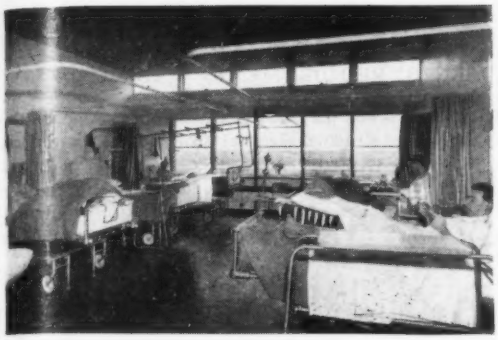
Viewpoint 15: sliding-folding doors into the casualty department allow ambulances to back up under cover right into the building. This is one of the few key points where the floor slab heating is supplemented, in this case by warm air batteries.

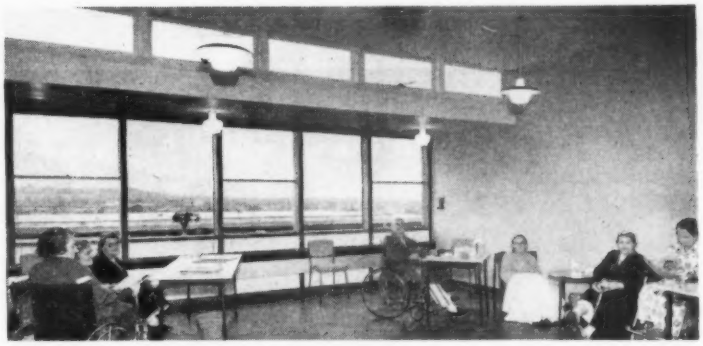


Viewpoint 16: the casualty department is very skilfully and compactly planned as a series of treatment cubicles, grouped round a lay-up, with internal circulation, shown here, to two minor operating theatres, and peripheral circulation outside for patients' access.

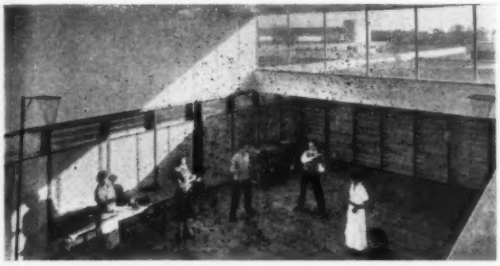
Viewpoint 17: the planning of the ward block follows very closely that developed by the Nuffield Group and used by them at Musgrave Park Hospital, Belfast, with a central spine of circulation, shown here with one of the nurses' stations in the foreground, and generally four and six bed wards opening off directly to the left, and service rooms and single-bed wards to the right.



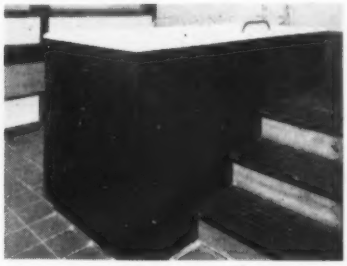


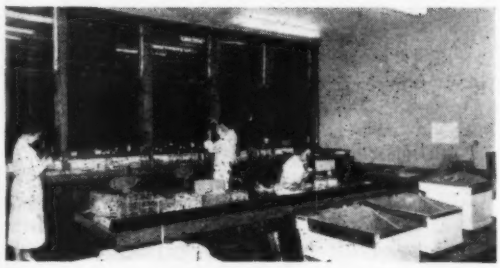


Viewpoint 18 *(above left): various detailed features of the ward design have been applied from the Nuffield experiment, in particular the use of a set-back clearstorey window, to cut down views of the sky from beds near the outside wall, but allowing enough light to penetrate to the central circulation space. Curtain tracks are provided so that individual beds can be screened off and adjustable lamps at each bed-head are long enough to be used for medical inspection. Viewpoint* 19 *(above right): in the centre of the ward block, as in the Nuffield design, there is a day space, a feature made desirable by the technique known as early ambulation. It would seem slightly unfortunate that this space is so aseptic in character: the introduction of soft furnishings would help to create a more domestic and friendly atmosphere. Below left: the Physiotherapy Department includes a small gymnasium with a viewing gallery. Viewpoint* 20 *(below centre): in the same department there is also a specially designed treatment bath in terrazzo. Below right: baths in the ward block are raised and access steps provided, so that patients can be washed without nurses' bending.*





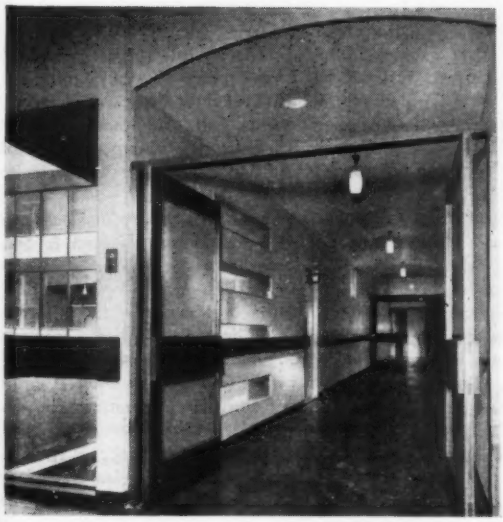


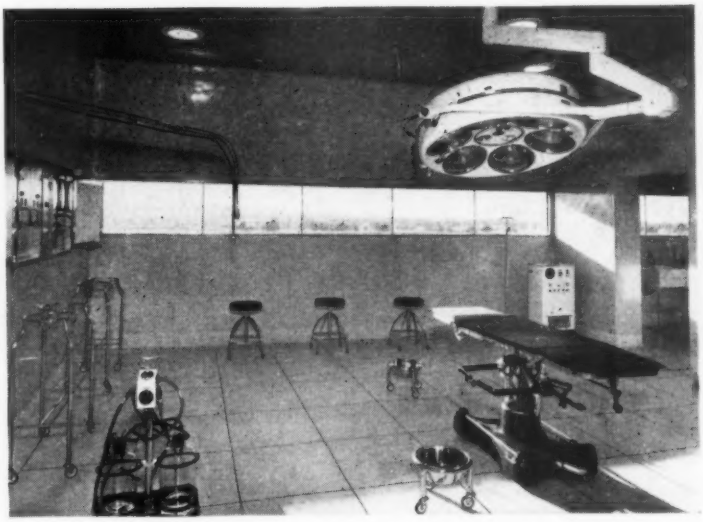


Viewpoint 21 *(left): the first stage includes a series of laboratories in the Pathology and Post Mortem department.*

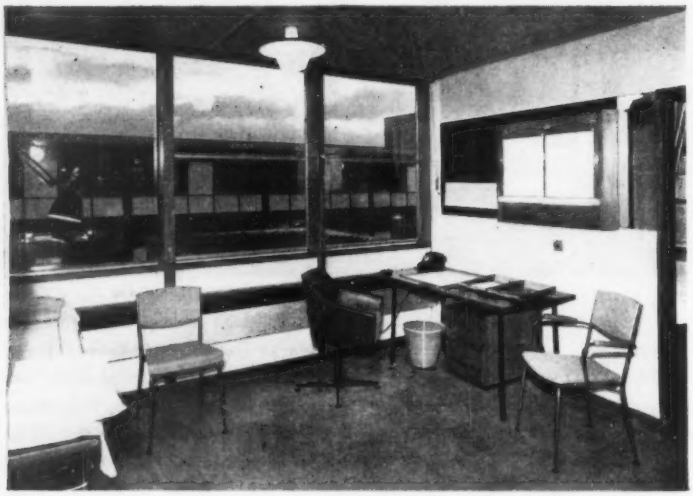
Viewpoint 22 *(below left): the link corridor at the lower floor to the operating theatres is carried out in in-situ concrete, with a slightly vaulted ceiling.*

Viewpoint 23 *(below): the operating theatres are unusual in their design, in that they rely in the main on artificial lighting and have only a strip view window to the south. Some form of sun control here would appear to be an advantage.*





building illustrated



A typical consulting room, with well-organised, built-in equipment such as the X-ray viewer, mirror, and pin-up board over the desk. A continuous duct for services runs along the outside wall under the sill.

analysis

CLIENTS' REQUIREMENTS

The architects and the consulting architect were approached by the Oxford Regional Hospital Board at a very early stage in the evolution of the hospital. Before any other but the broadest requirements were settled, the detailed requirements (relationships of departments, room sizes, equipment, etc.) were, in fact, evolved with the collaboration of the designers.

The client required that the hospital should be capable of being built in certain specified stages, and that the conception should be flexible enough to allow the ever-changing techniques in medicine and nursing to be assimilated into the buildings designed.

COST SUMMARY

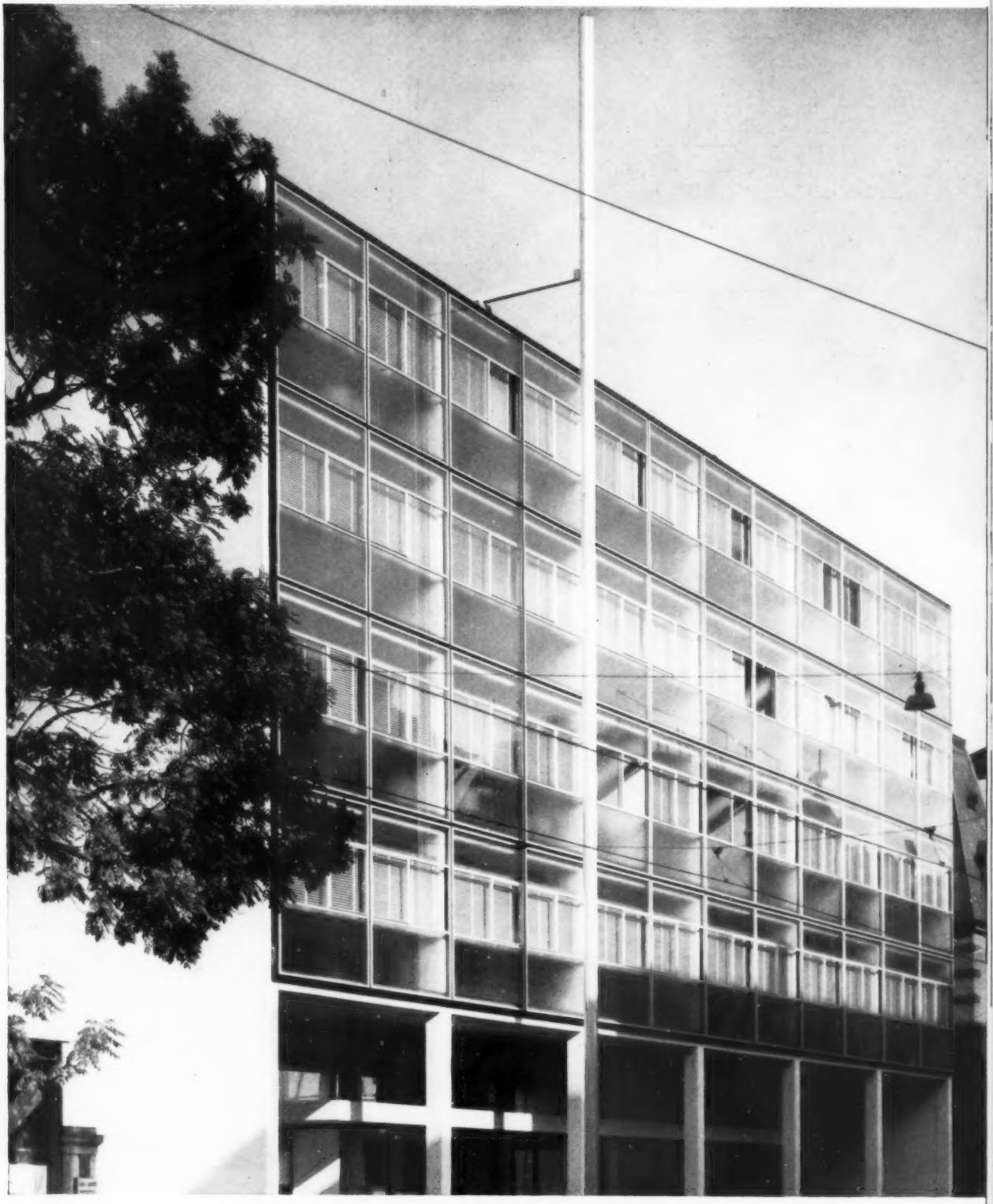
Element	*Total in £s*	*Per sq. ft.* s.	d.
Preliminaries and insurances	27,464	6	9½
Contingencies	10,000	2	5½
Structure and cladding	197,360	48	8½
Internal finishes and decorations	39,118	9	8
Joinery fittings, fume cupboards, doors, etc.	24,595	6	0¾
Metal cupboards, water heaters, sterilising, radiography and kitchen equipment, etc.	6,076	1	6
Services:			
Lift installation	8,342	2	0½
Sanitary plumbing	14,287	3	6¼
Mechanical services	79,152	19	6½
Electrical services	37,435	9	2¾
Temporary boiler house	3,500		10¼
External works	43,904	10	10
Total	491,233	121	2½

CONTRACTORS

General contractors: W. E. Chivers & Sons. *Sub-contractors: Mechanical services, heating and ventilating:* G. N. Haden & Sons. *Electrical installation:* William Steward & Co. *Flooring, cork, linoleum, hardwood:* Philip Flooring Co. *Flooring, rubber:* Semtex, Ltd. *Floor and wall linings in terrazzo:* Marbello & Duras Ltd. *Roof coverings:* D. Anderson & Son. *Architectural ironwork, stainless steel draught lobby and special equipment:* Wessex Guild Ltd. *Refrigerators:* R. E. A. Bott Ltd. *Blinds:* Accordo Blinds Ltd. *Curtain track:* Roanoid Ltd. *Sterilizers:* Sierex Ltd. *Lifts (passenger):* Express Lift Co. *Theatre lifts (goods):* Aldous & Campbell Ltd. *Hubburd tank gear:* Wessex Guild Ltd. *Horticultural works:* R. J. Tucker & Son. *Sash windows:* Alumin Building Components Ltd. *Staff houses, roofing:* William Briggs & Sons. *Road surfacing:* Limmer & Trinidad Asphalt Co. *Asphalt tanking:* Faldo Asphalte Co. *Aluminium dust covers:* G. A. Harvey & Co. (London). *Slate facings:* Bow Slate & Enamel Co. *Flush doors, plaster and hardwood faced:* Veneercraft Ltd. *Viewing screens:* Watson & Sons (Electro-Medical) Ltd. *Joinery, standard cupboards:* Walter Lawrence & Son. *Ironmongery:* B. Finch & Co. *Nosings:* Ferodo Ltd. *Curtains:* Mills & Merricks Ltd. *Windows, standard metal:* Williams & Williams Ltd.; Metal Casements Ltd. *Windows, louvred:* G. Johnson Bros. *Metal cupboards:* J. Glover & Sons. *Sliding doors (ambulance entrance):* Potter Rax Ltd. *Frostproof tiling:* Purbeck Decorative Tile Co. *Sanitary fittings:* Broad & Co. *Plastic roof dome lights:* William J. Cox Ltd. *Rooflights in theatre block:* J. A. King & Co. *Fencing:* David Rowell & Co. *Double glazing:* Hollow Seal Glass Co. *Foundation stone:* Fenning & Co. *Bronze extrusions:* McKechnie Bros.

LIGHT MAST: OFFICES IN BASLE

Hans Fischli, architect (material supplied by Barrie Sheldon)

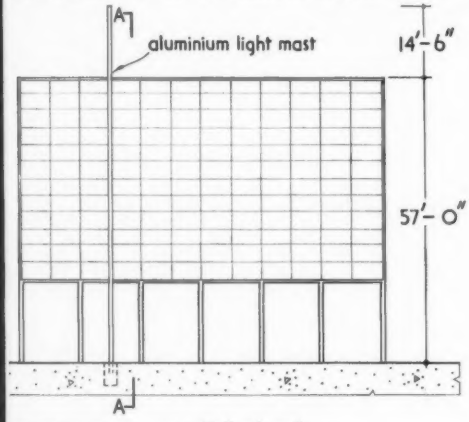


This is an interesting essay into the decorative possibilities of fluorescent light tubes, which in this case are housed in an aluminium mast fabricated and erected in one piece.

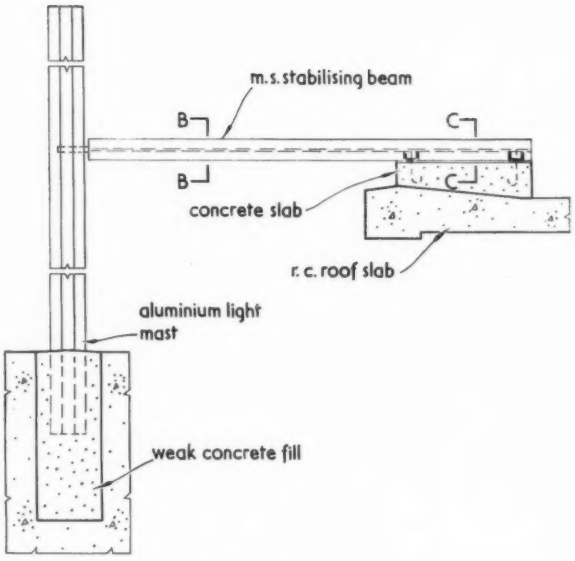
working detail

LIGHT MAST: OFFICES IN BASLE

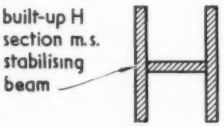
Hans Fischli, architect (material supplied by Barrie Sheldon)



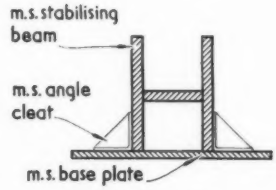
ELEVATION. scale 1/32" = 1'-0"



SECTION A-A. scale 1/4" = 1'-0"



SECTION B-B. scale 1/8 full size



SECTION C-C.

PLAN. scale 1/2 full size

note: figured dimensions in feet and inches are approximate

working detail

OBSERVATION DOME: HOSPITAL IN DUSSELDORF

K. Gutschow and G. Nissen, architects (material supplied by Hans Haenlein)

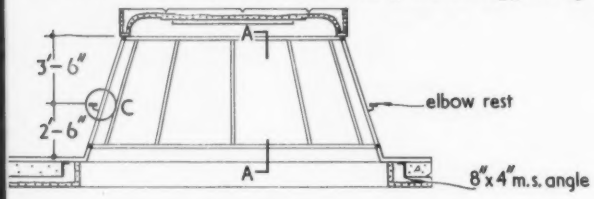


The chief interest of this detail is in the slim glazing members which also support the timber elbow rest, and the economical detailing of the kerb on which the glazing rests.

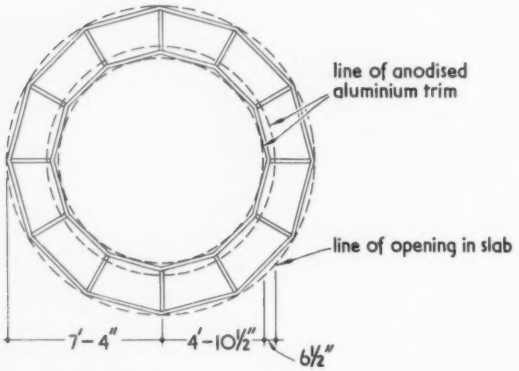
working detail

OBSERVATION DOME: HOSPITAL IN DUSSELDORF

K. Gutschow and G. Nissen, architects (material supplied by Hans Haenlein)

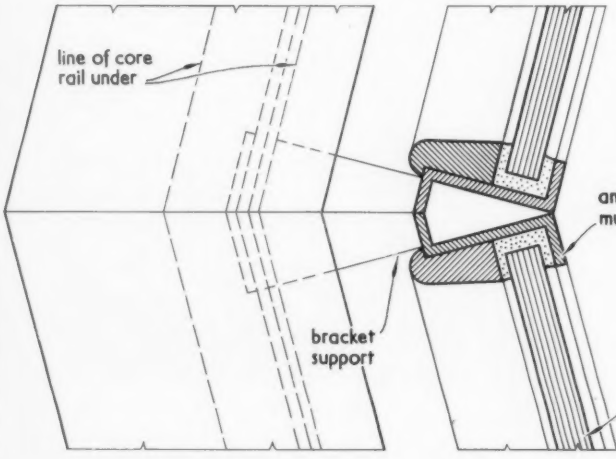


SECTION. scale 1/8" = 1'-0"

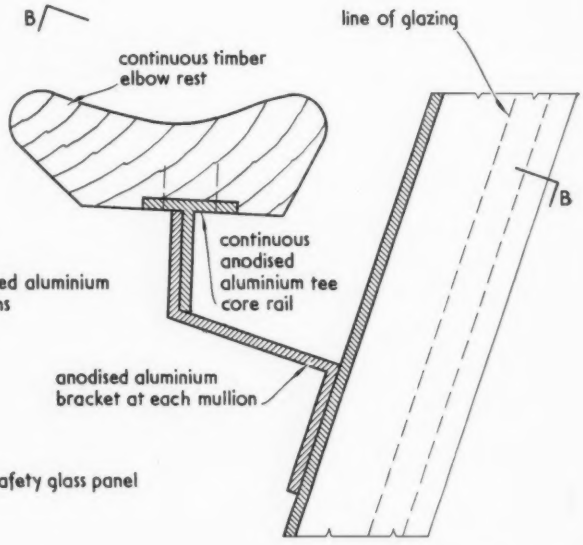


PLAN. scale 1/8" = 1'-0"

SECTION A-A. scale 3/8 full size



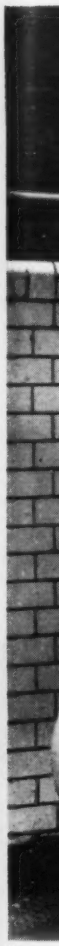
PLAN AT B-B. scale 3/8 full size



SECTION C-C.

note: figured dimensions in feet and inches are approximate





Two ty

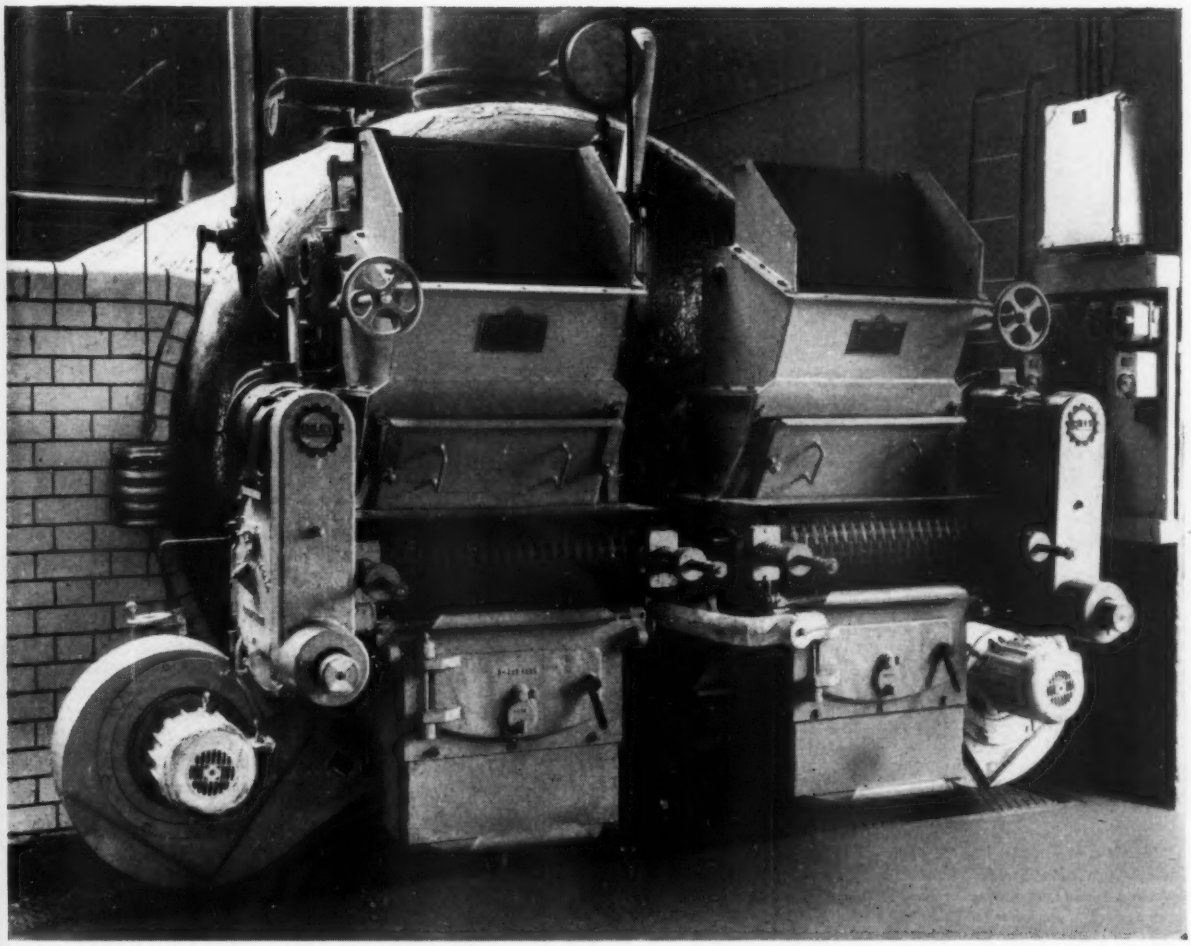
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Two type 'T' stokers firing a Lancashire boiler at a Midland Works

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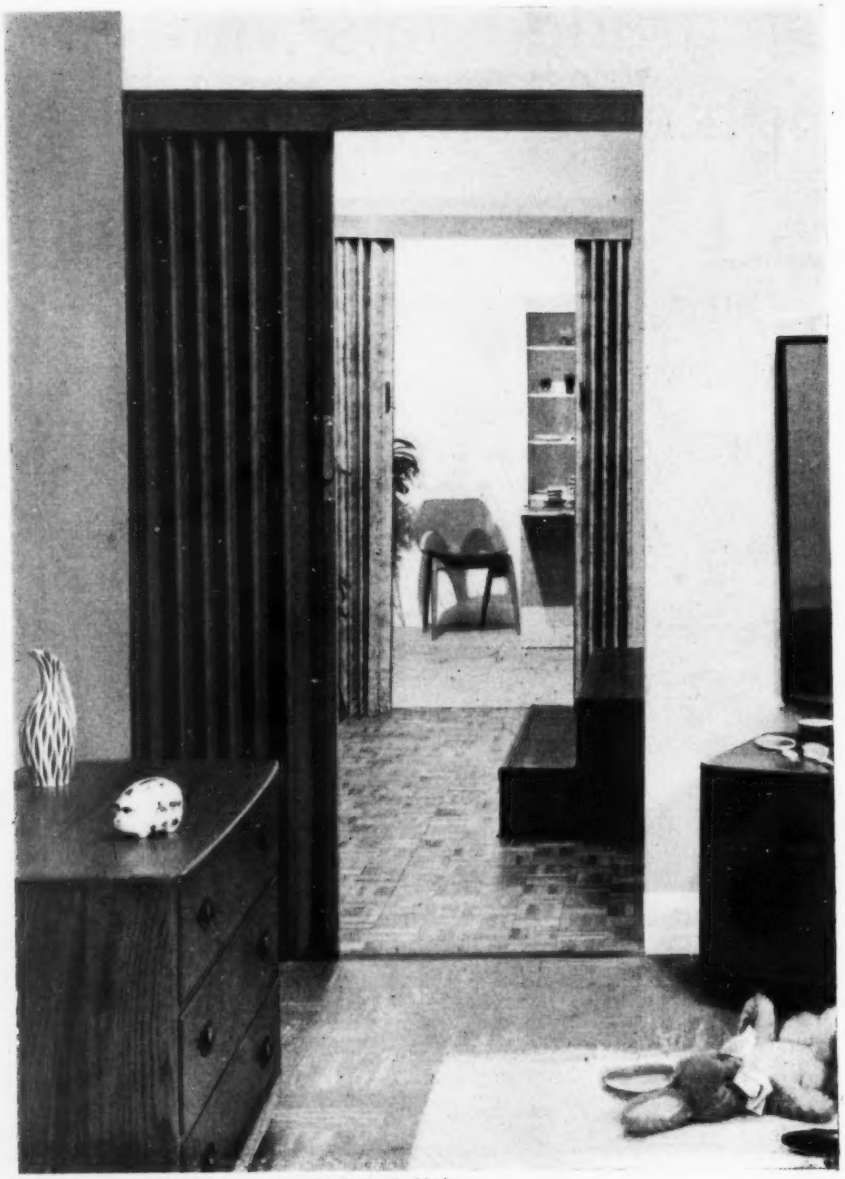
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Functional, economical folding doors that occupy no room space, open or closed, Marley Space-Saver Doors allow home owners the choice of open plan spaciousness or quiet privacy . . . at the touch of a hand.

These precision made, vinyl-covered folding doors cater to the needs of builder and buyer alike. Designed to fit openings 6′ 6″, 6′ 8″ and 8′ high, and from 2′ 3″ to 8′ wide, in single units, they may be installed in pairs to enclose widths up to 16′.

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4 qualities, 5 colours quickly installed !

THE STANDARD RANGE

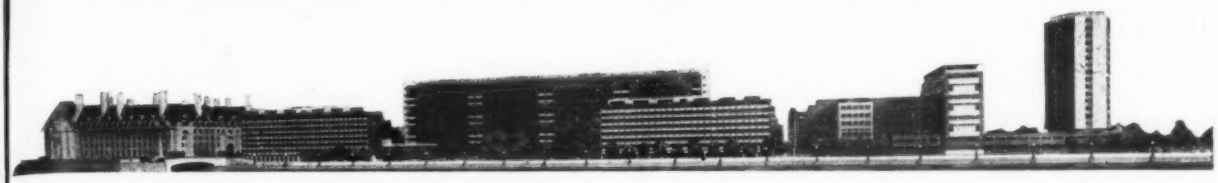
Regal The most luxurious door in the Space-Saver range. Ease of opening, closing and neat folding is assured by the fully pantographic action, along with the smooth-running nylon glides on a precision-machined track. The heat sealed vinyl pockets contain solid core panels to reduce sound transmission. 'Tear drop' handles with spring-loaded ball catch ensure simple locking action. Vinyl bumper strip on the leading edge protects woodwork and eliminates 'slam' noise. Valance boards are covered in matching vinyl.

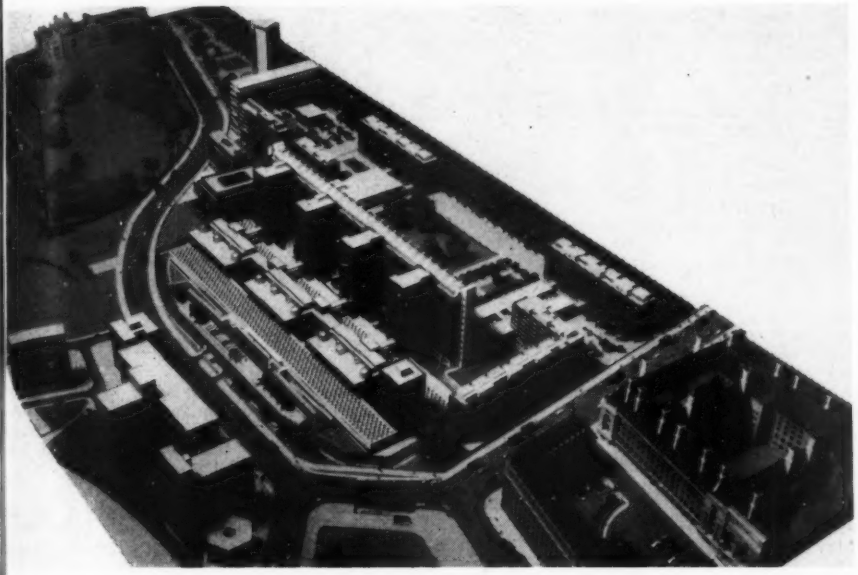
Princess The Princess matches the quality of the Regal door, but does not include the pantographic action. A nylon glide, mounted on the top of each rigid hardboard core panel and sliding in a vinyl coated steel track, produces a silent, easy movement. 'Tear drop' handles with a spring-loaded ball catch, two valance boards and the vinyl bumper strip are also features of the Princess door.

Walldoor The pre-pleated vinyl pockets of the Walldoor contain solid Insulcore struts to ensure rigidity, and to give trim and permanent fold lines. Nylon runners glide easily in a steel track. A vinyl bumper strip on the leading edge of the door prevents marking and ensures noiseless closing. The door is fitted with moulded high-impact plastic handles and a spring-loaded ball catch. Matching valance board.

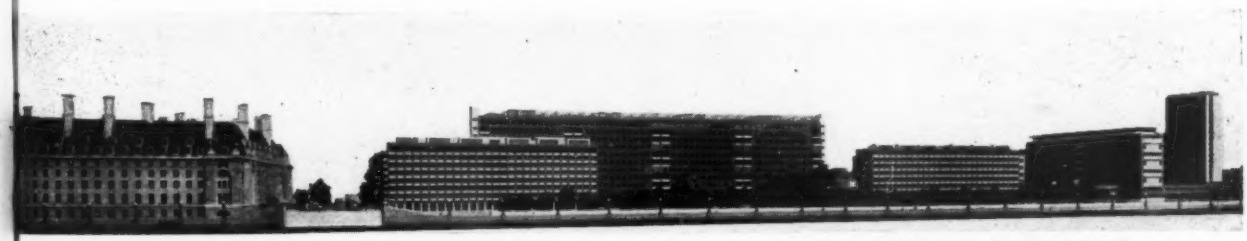
Accordion Single ply, pre-pleated vinyl with concealed steel weights at the bottom to add to the rigidity and assist even folding. Maintenance-free overhead track and nylon glides ensure silent, easy movement. The opening edge has a concealed metal reinforcement. Walldoor handles and a security latch.

THE RECONSTRUCTION OF ST. THOMAS'S HOSPITAL, LAMBETH





The final scheme for the reconstruction of St. Thomas's Hospital, prepared by W. Fowler Howitt, the architect to the hospital. The main departure from the earlier proposals is the wedge-shaped tower block (extreme right in the riverside view, above), which is a student hostel for the medical school, and has been designed by Easton and Robertson. Left is a view from above Waterloo Station. Work is planned in four stages and will begin as soon as the re-alignment of Lambeth Palace Road is completed in September.



Photograph by courtesy of Architects' Journal

THE MODEL OF THE NEW ST. THOMAS' HOSPITAL AND MEDICAL SCHOOL

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Architects to the Medical School
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Announcements

PROFESSIONAL

W. Richards has opened a new office on the 2nd Floor, "A" Building, The Temple, Dale Street, Liverpool 2, and would be pleased to receive trade literature.

Keith McCann, A.R.I.B.A., A.M.T.P.I., has now commenced practice in association with Moir & Bateman, F/A.R.I.B.A., at 180, Oxford Road, Manchester.

Alexander Beckingsale, L.R.I.B.A., has taken Robert Forman, A.R.I.B.A., and Roger Mortimer, A.R.I.B.A., into partnership under the style of Alexander Beckingsale & Partners. The practice will continue to be conducted from 36, Whiteladies Road, Clifton, Bristol, 8 (telephone Bristol 36762 and 35826).

R. Towning Hill & Partners have moved to 29, Great George Street, Bristol 1 (telephone 21224) and have taken into partnership A. J. Chamberlain, A.R.I.B.A. Lucas Mellinger practices on his own at 2, Nottingham Street, London, W.1.

Leonard Gavins-Taylor, A.R.I.B.A., has retired from partnership with Bowden Son & Partners and is now practising on his own account from Central House, Finsbury Square, London, E.C.2 (telephone Monarch 1746) where he will be pleased to receive catalogues and literature and renew existing contracts with manufacturers representatives.

W. H. Watkins & Partners have moved their Bristol office to 14, St. Stephen's Street, Bristol; they will be pleased to receive trade literature, particularly with reference to buildings in the Tropics.

A Building Costs Research Bureau has been established at 142, Bannerdale Road, Sheffield 7, under the direction of N. B. Harries, A.I.Q.S., L.I.O.B.

TRADE

T. & W. Farmiloe Ltd. have appointed Sir Edmund Bedingfeld as Manager of the Company's Architectural Division.

Following the merger of Enfield Cables Ltd. and Standard Telephones & Cables Ltd., a new company has been formed, Enfield-Standard Power Cables Ltd.

Metal Propellers Ltd. of Croydon have acquired The Standard Steel Co. (1929) Ltd. of Purley Way, Croydon.

Mellor Bromley (Air Conditioning) Ltd. have now moved to St. Saviours Road, Leicester (telephone Leicester 38161).

John Laing & Son (Holdings) Ltd. and Lex Garages Ltd. have agreed to form a new company, Laing Lex Ltd., for the purpose of sponsoring multi-storey and underground car parking facilities in London and the major cities of Britain.

Atlas Lighting Ltd. have reorganized their Research and Development facilities, involving the formation of a Lighting Development Group under the control of H. Hewitt, A.M.I.E.E., F.I.E.S. The Group will be at the Atlas Lighting Laboratories at Enfield under Dr. J. W. Strange.

Air Pumps Ltd. have appointed the Building Equipment Division of Scaffolding (Great Britain) Ltd. as sole selling agents for the entire range of AP Air Compressors in Kent, Surrey and Sussex.

Croxton & Garry Ltd. have changed their telephone number to Kingston 9444.

Associated Electrical Industries (Woolwich) Ltd. (formerly Siemens Edison Swan Ltd.) is now responsible for managing four new Product Divisions of Associated Electrical Industries Ltd. These are: AEI Telecommunications Division, AEI Radio and Electronic Components Division, AEI Cable Division and AEI Construction (Cables & Lines) Division.

British Paints Ltd. have appointed Norman Ellis as General Sales Manager.

Detel Products Ltd. have elected Mrs. Vivienne D. Johnson to the position of Managing Director.

Crompton Parkinson Ltd. have re-joined the Cable Makers Association.

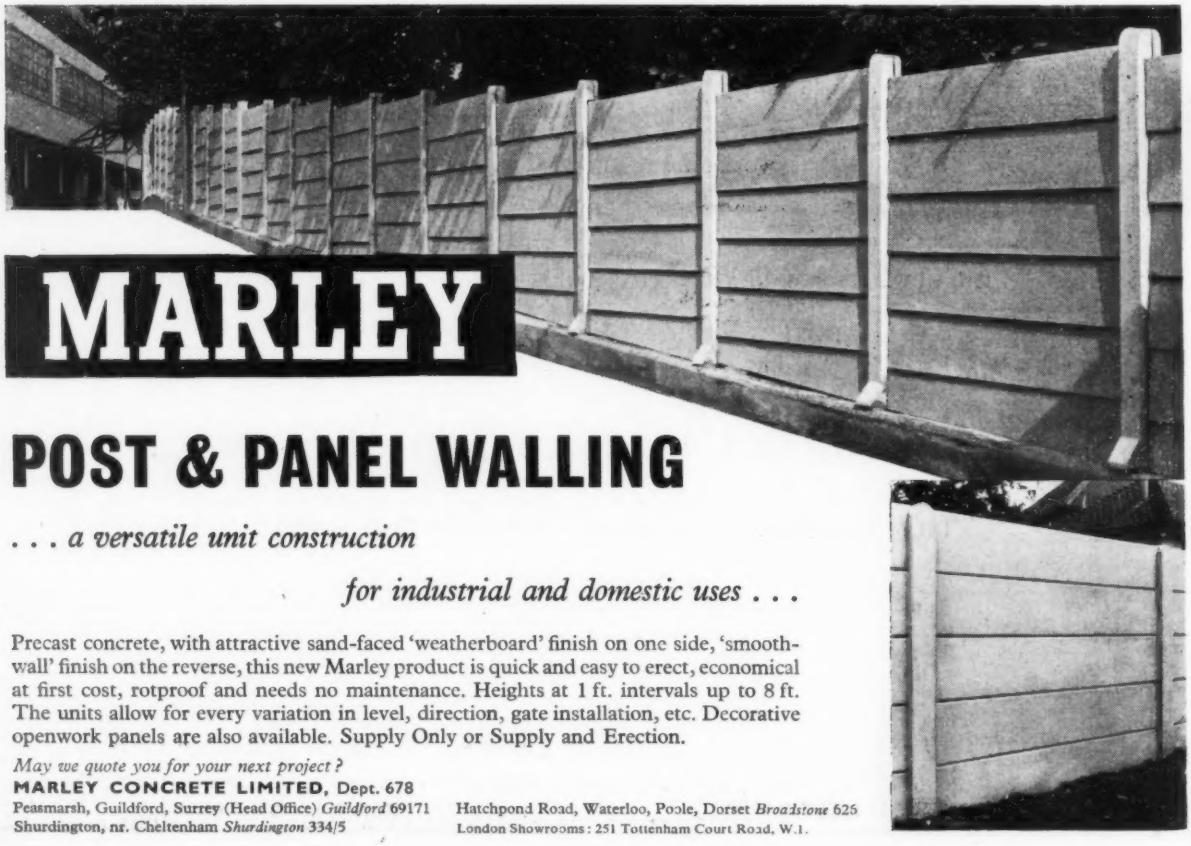
Planning and Development Ltd. have moved to 26/27, Cockspur Street, London, S.W.1 (telephone Whitehall 8555).

The Simplex Industrial Division has moved its headquarters and administrative staff to the Company's head office at Creda Works, Blythe Bridge, Nr. Stoke-on-Trent.

Corrections

In the JOURNAL for January 14 the name of one of the second-prizewinners in the Corby Civic Centre competition was given incorrectly as Peter Buckhurst: it should have been Paul Buckhurst.

Price of the monoghaph given in the JOURNAL for February 4 under Information Centre 19.225 Construction: Details, *Pitched Roof Coverings* should have read 2s. 6d., not 5s. 6d.



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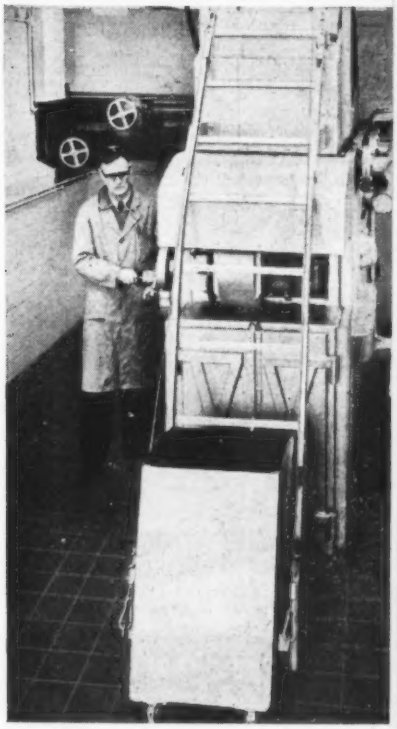


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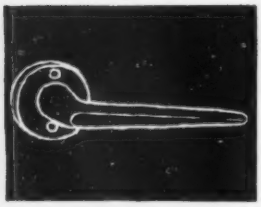
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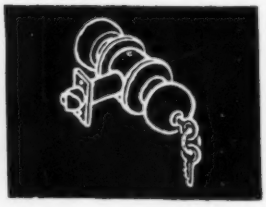
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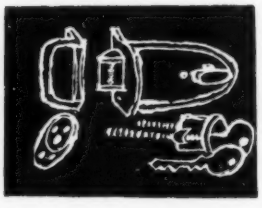
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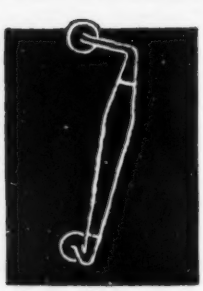








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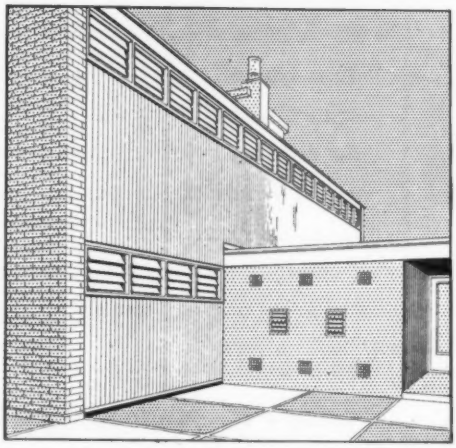
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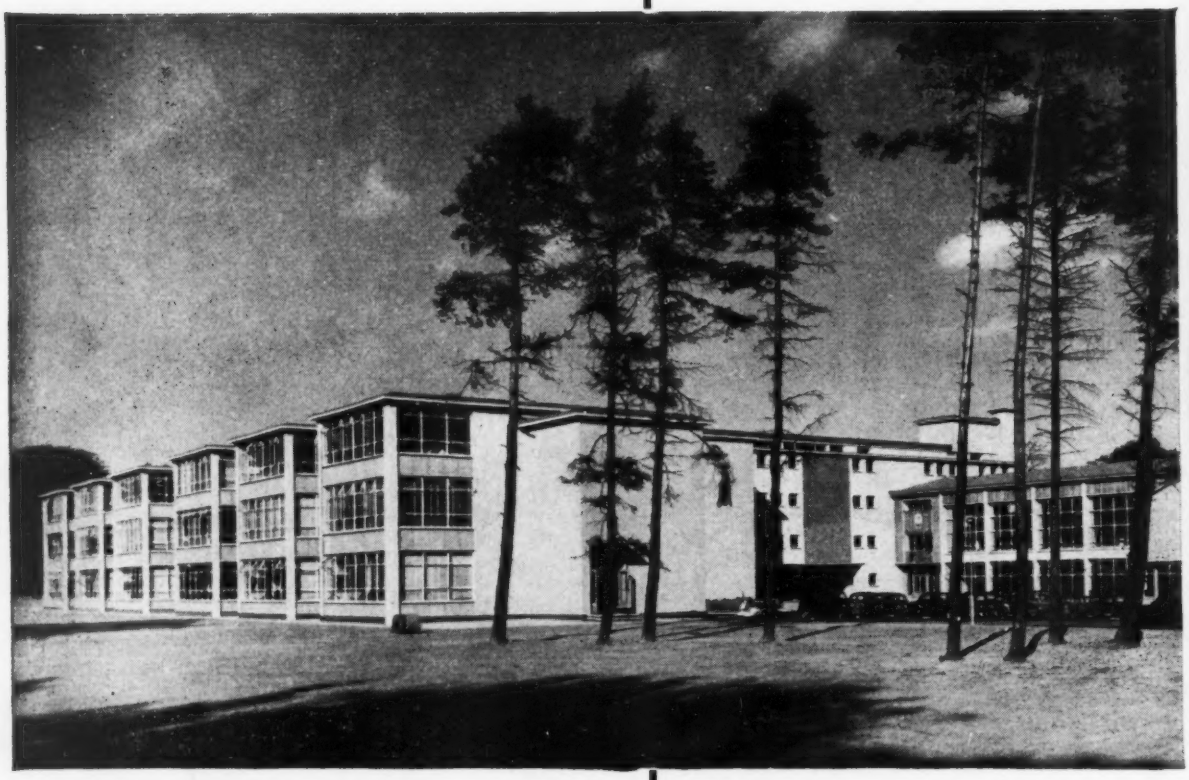
NACO

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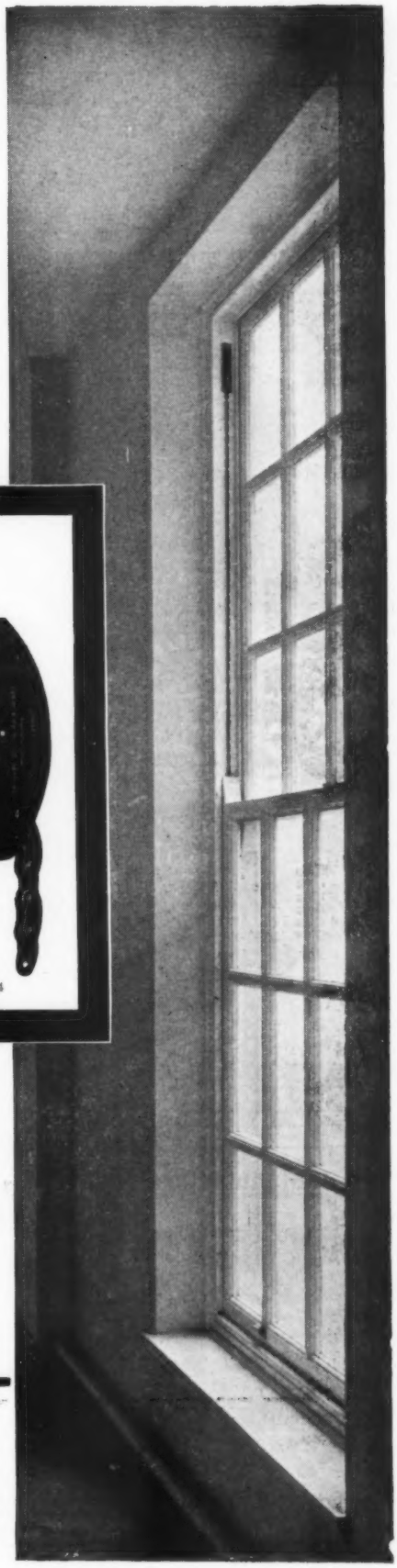
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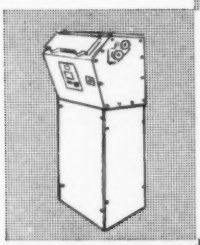


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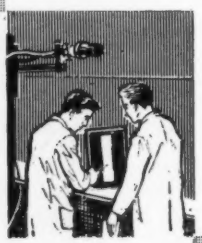
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60	6·6/11	250 mVA at 6·6 kV	3976
60	6·6/11	150 mVA at 6·6 kV	3977
60	3·3	75 mVA at 3·3 kV	4013
100	3·3	75 mVA at 3·3 kV	4061

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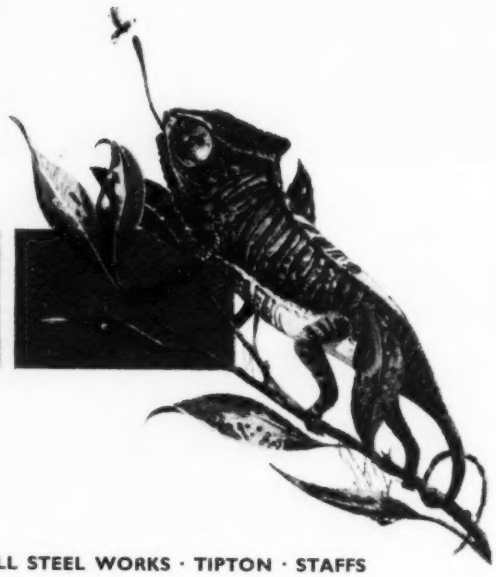
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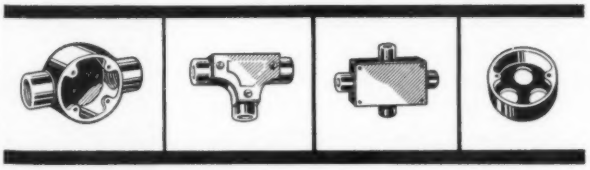
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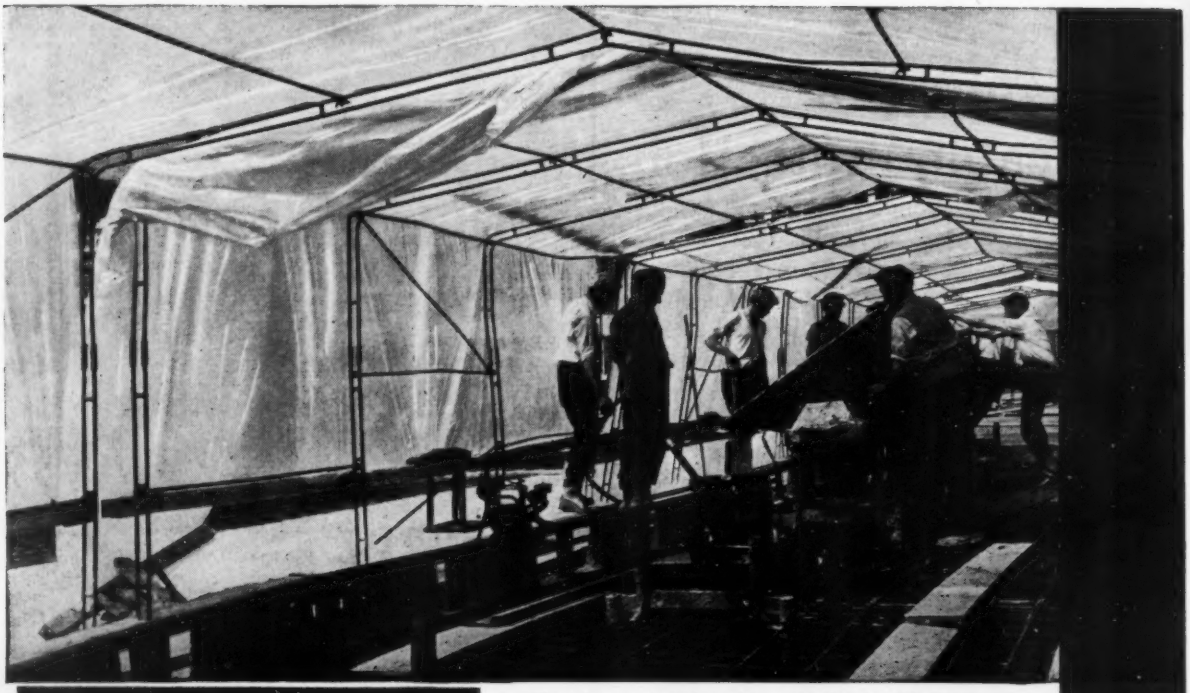
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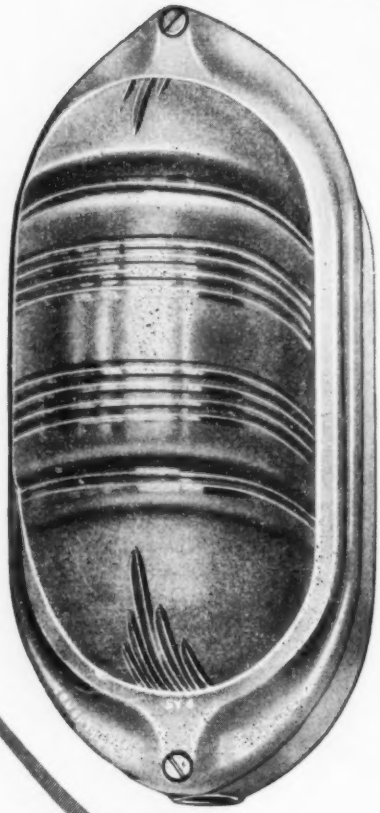
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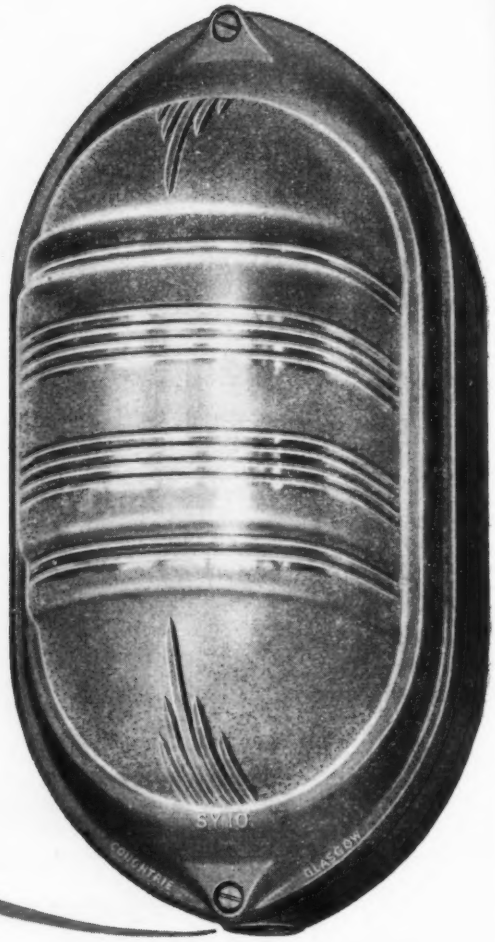
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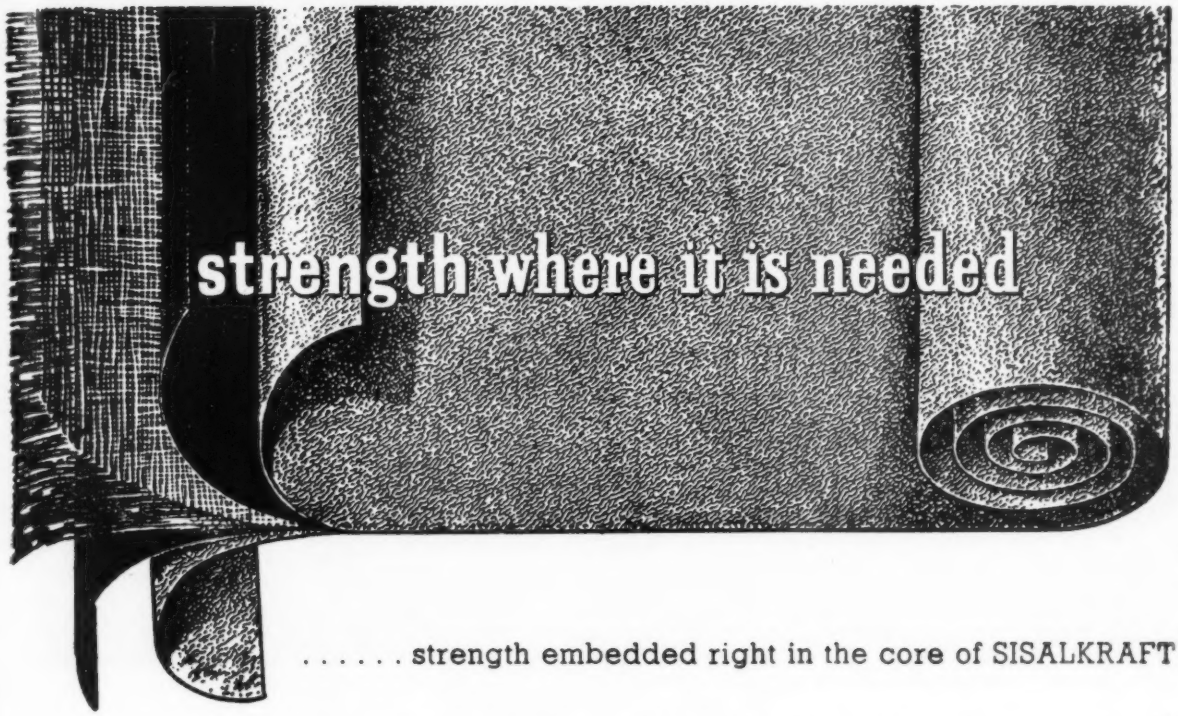


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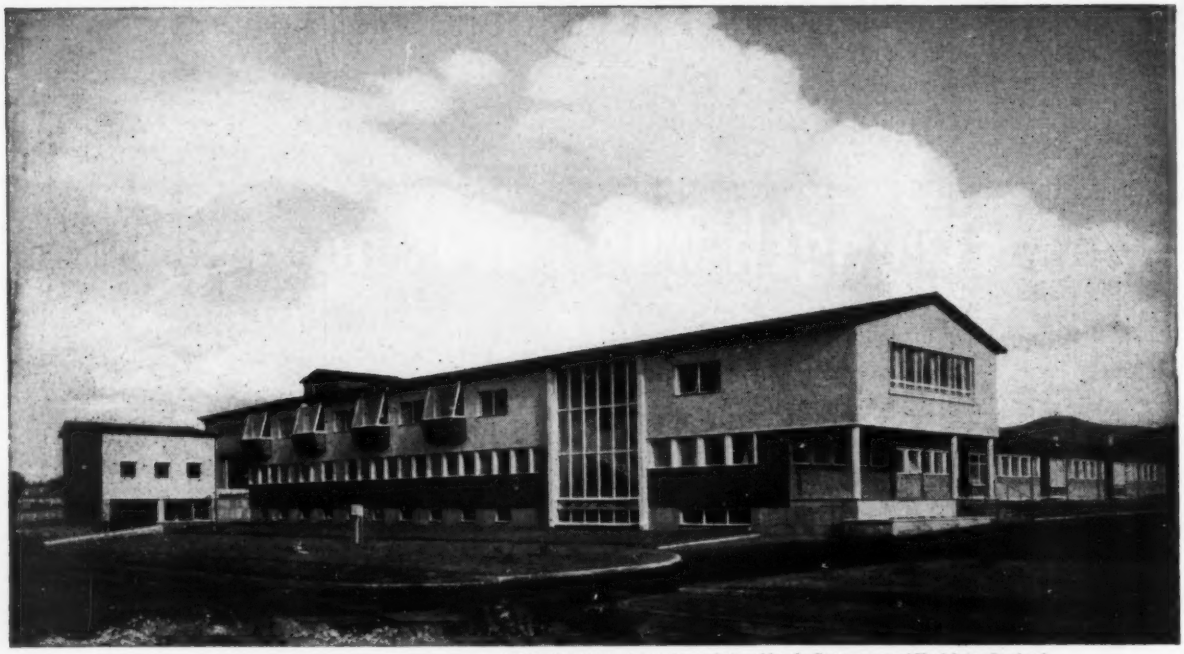
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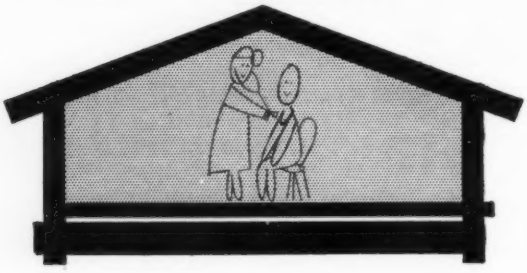
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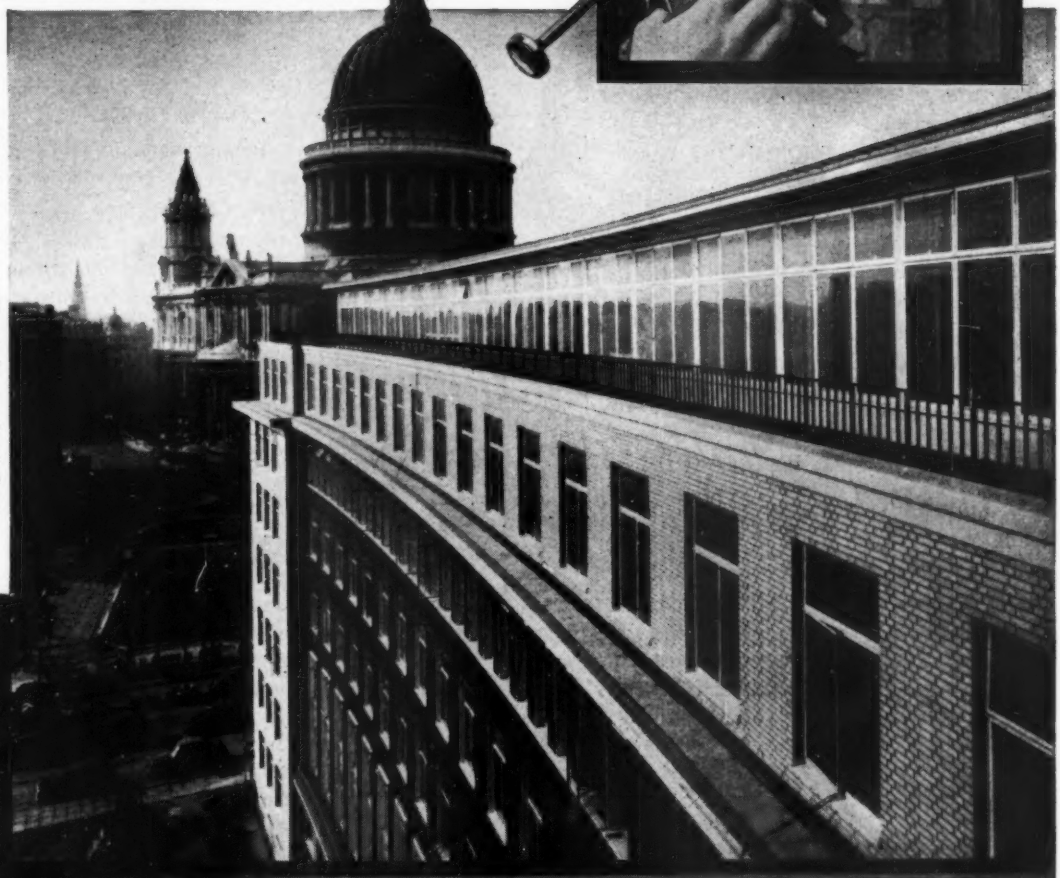
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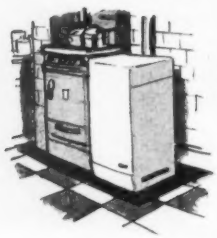
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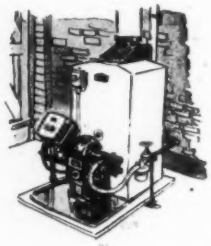
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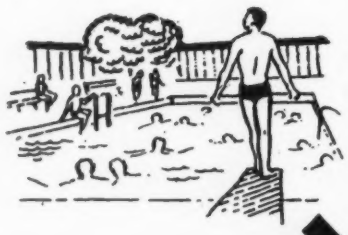
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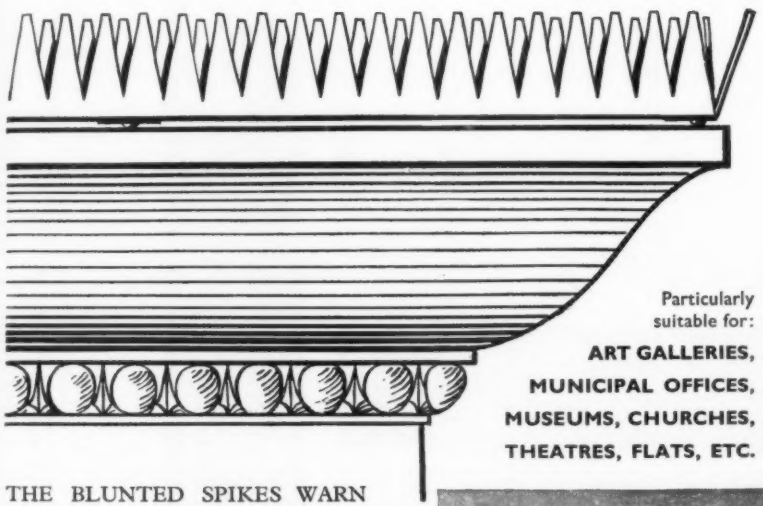


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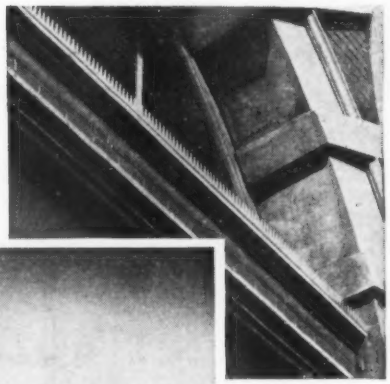
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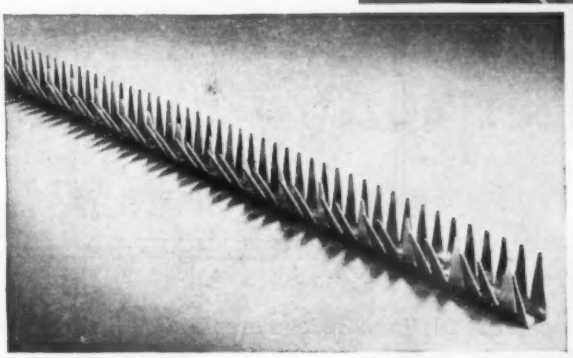
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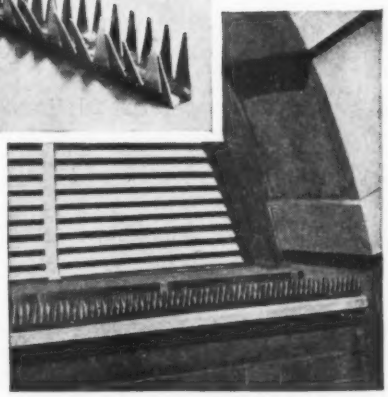
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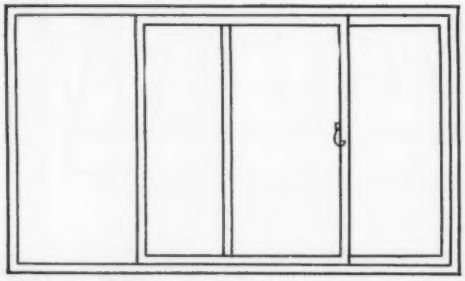
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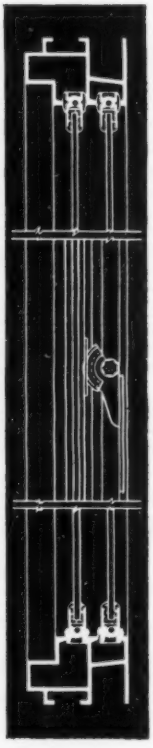
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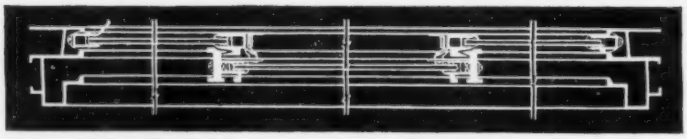
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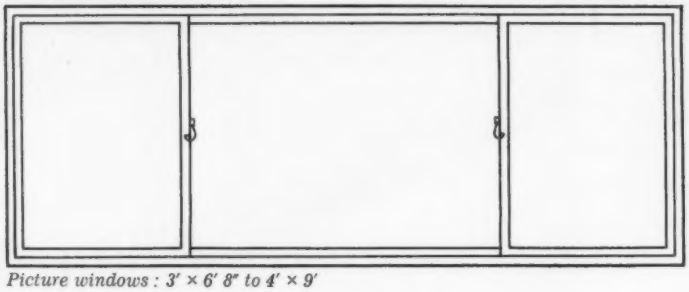
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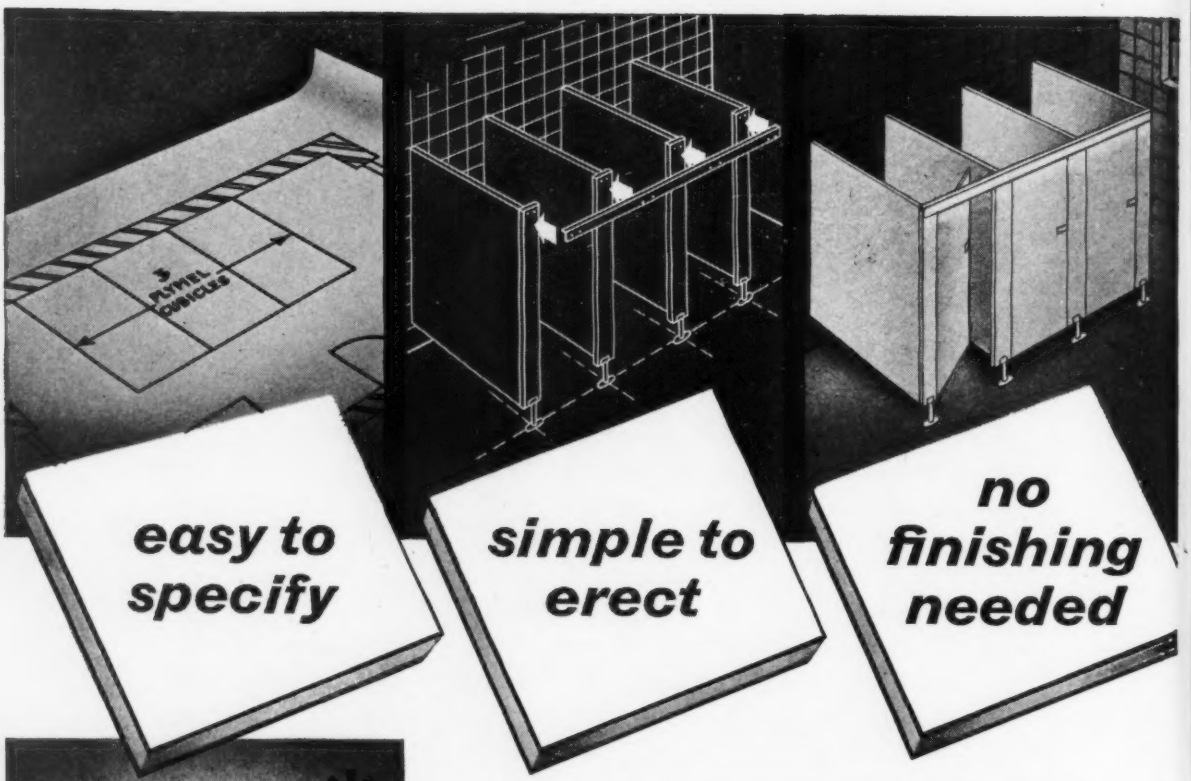
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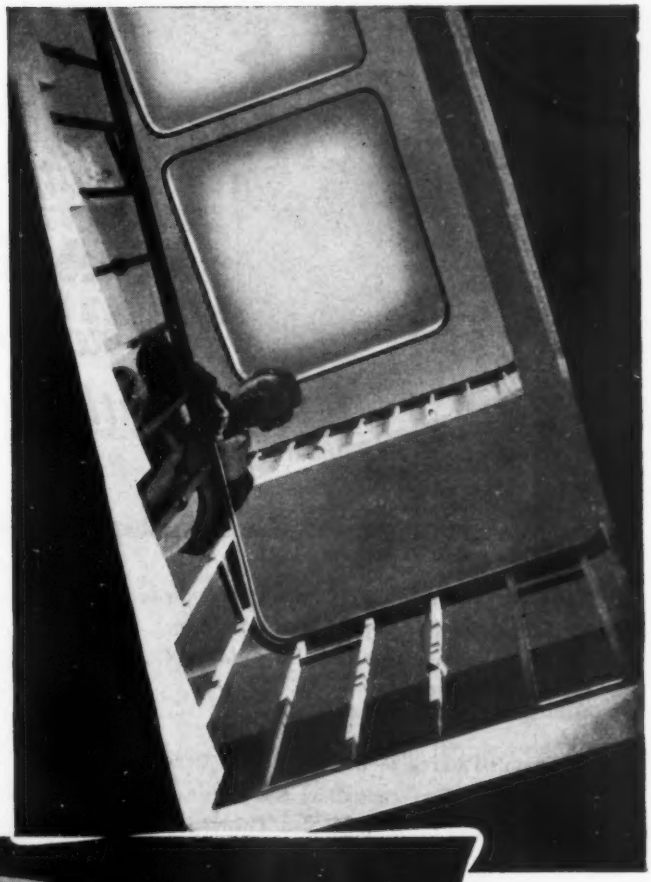
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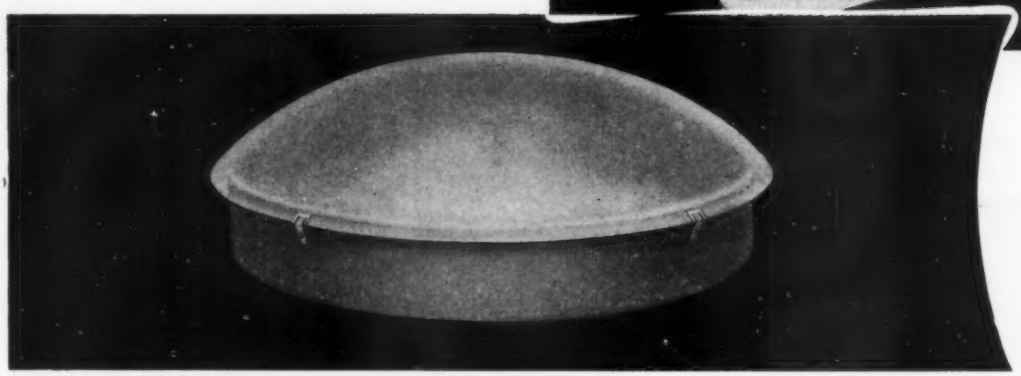
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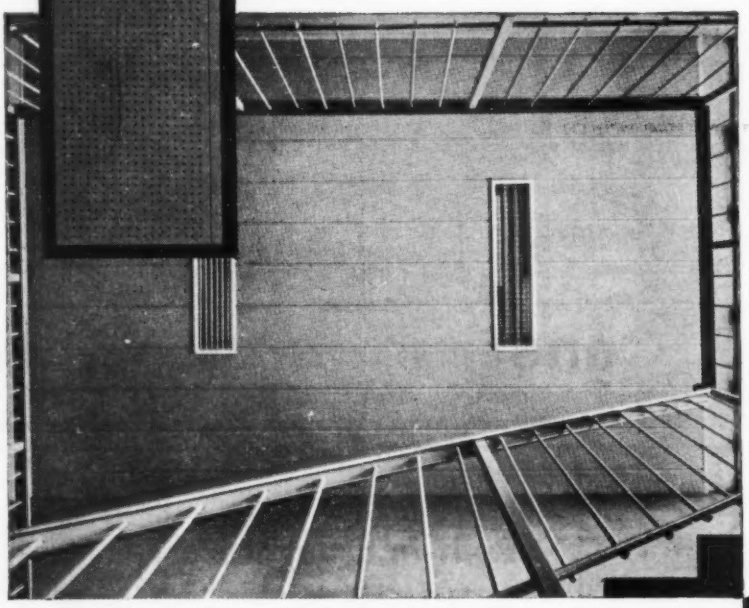
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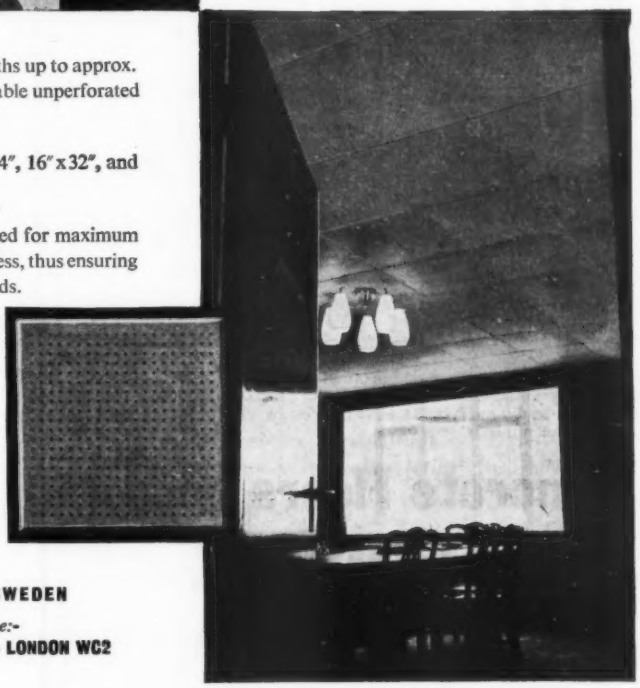
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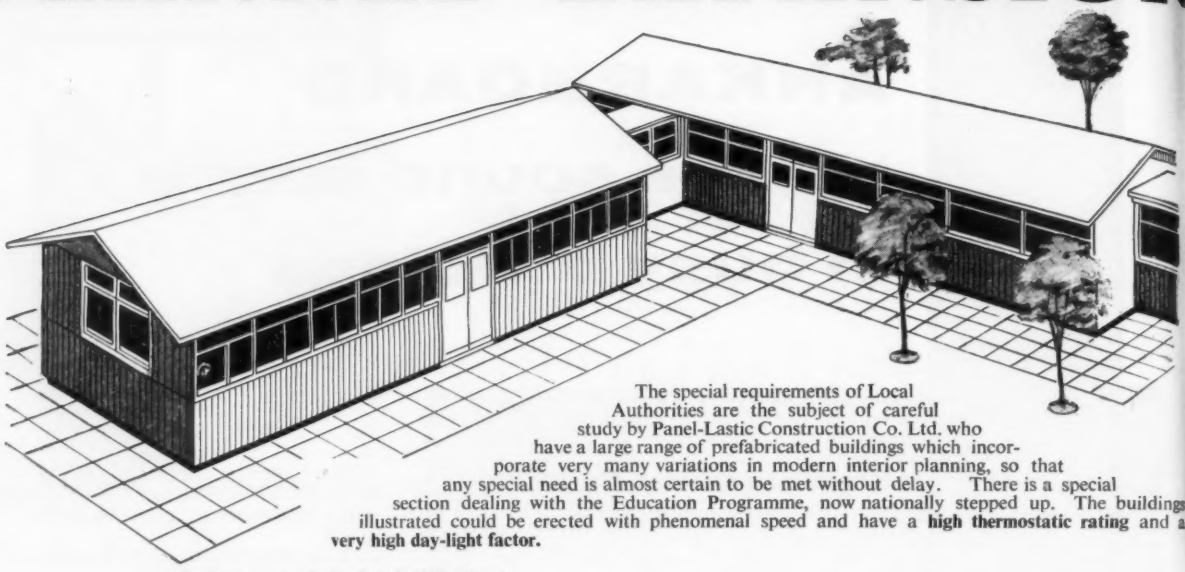
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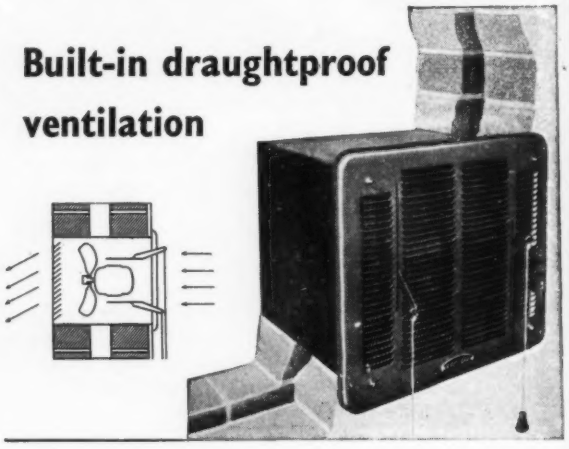
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The Thinker from "The Gate of Hell", Rodin, Bronze, 1879-1900

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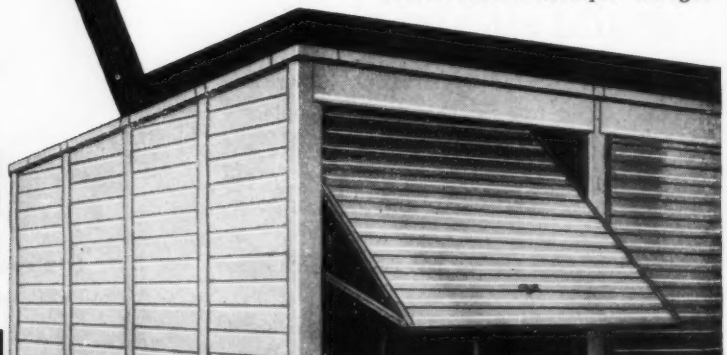
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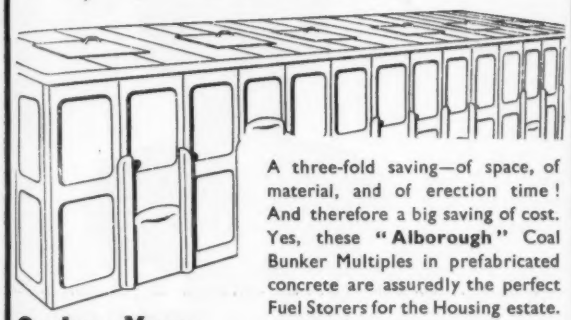
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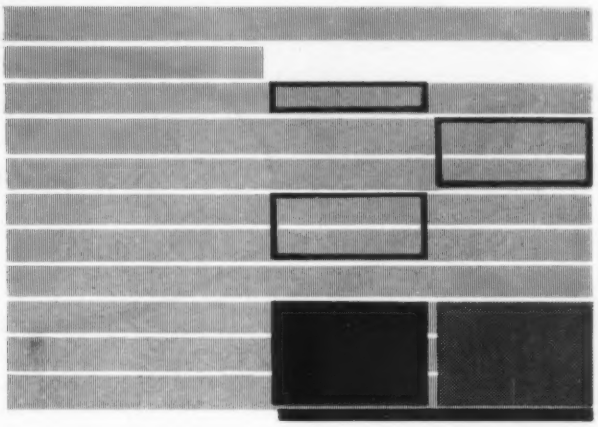
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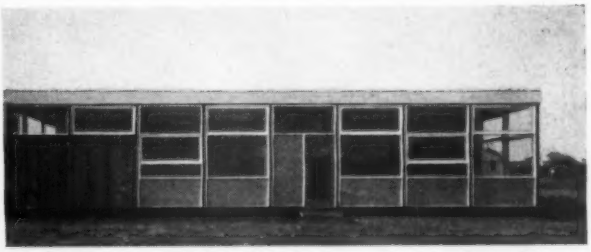
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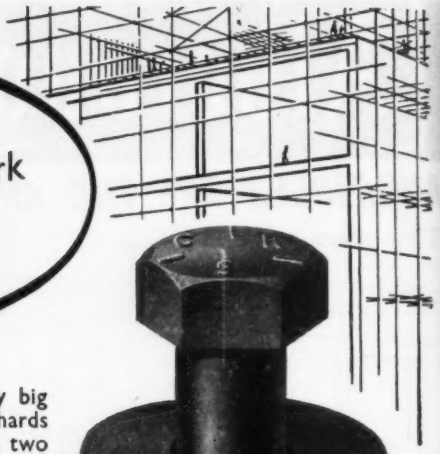
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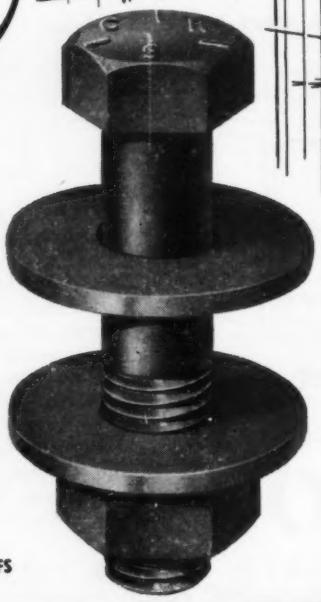
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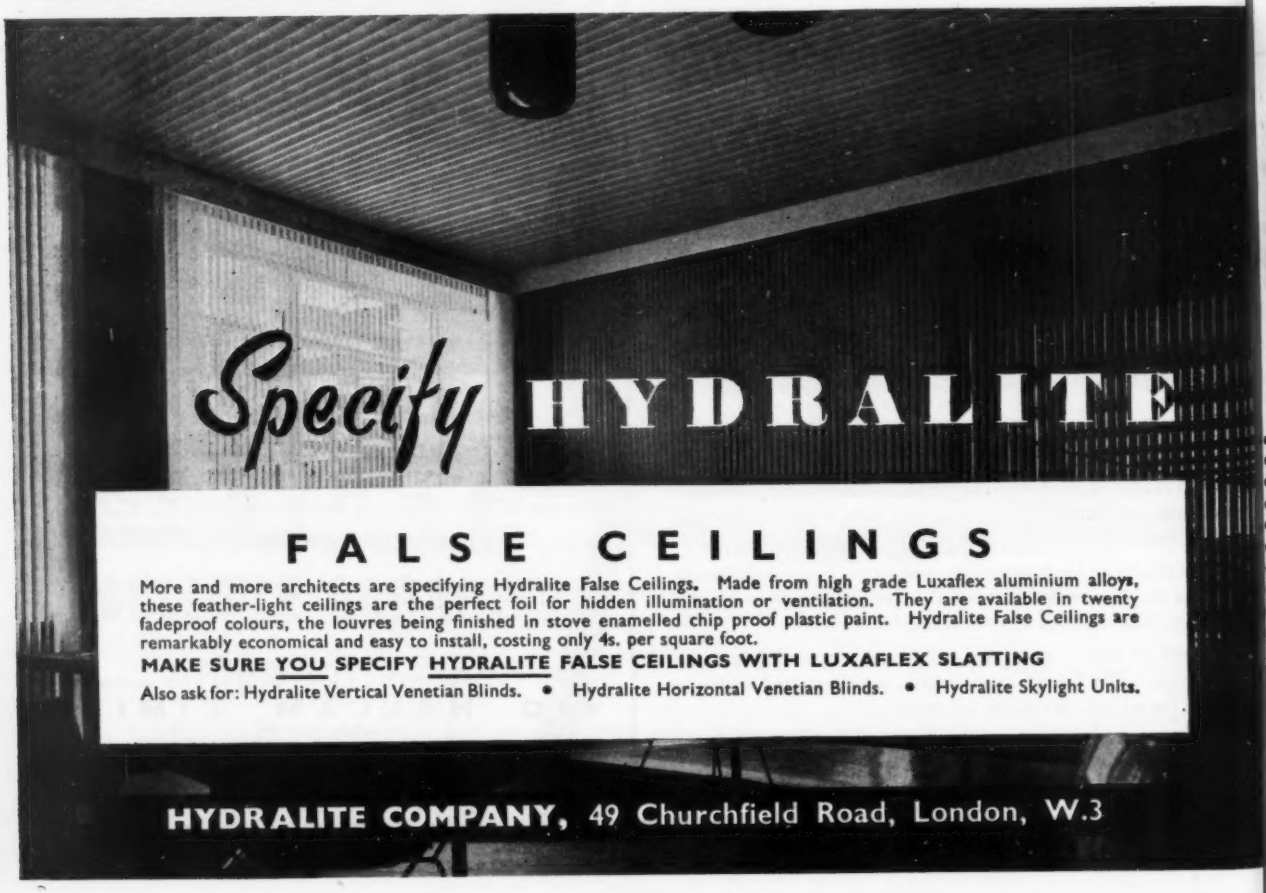
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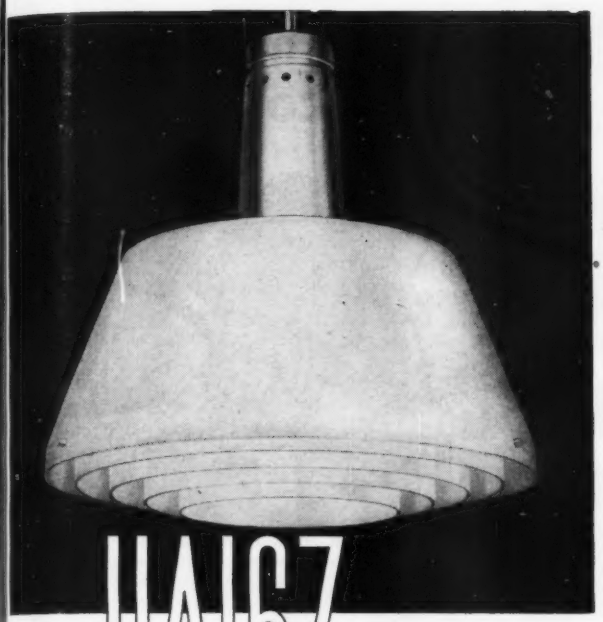
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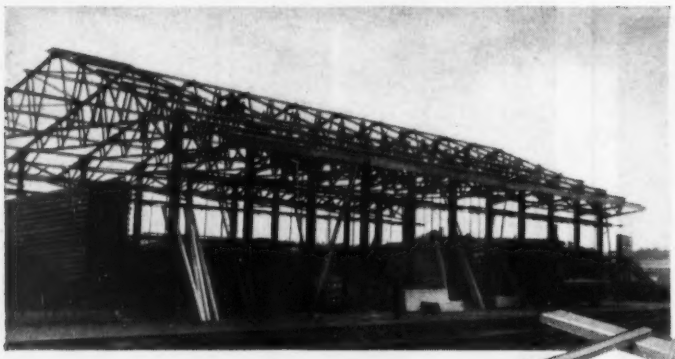
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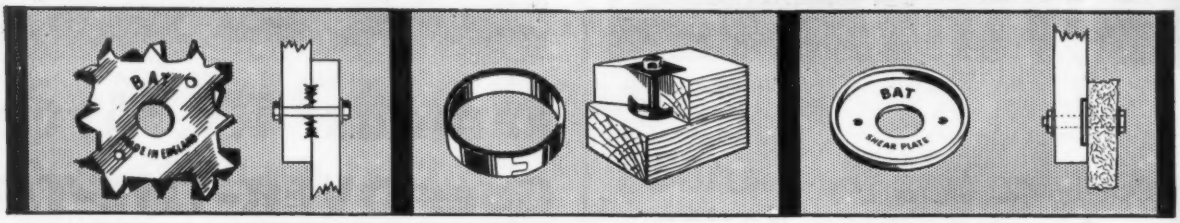


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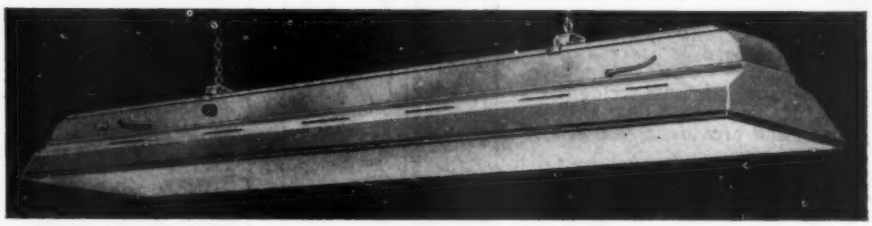
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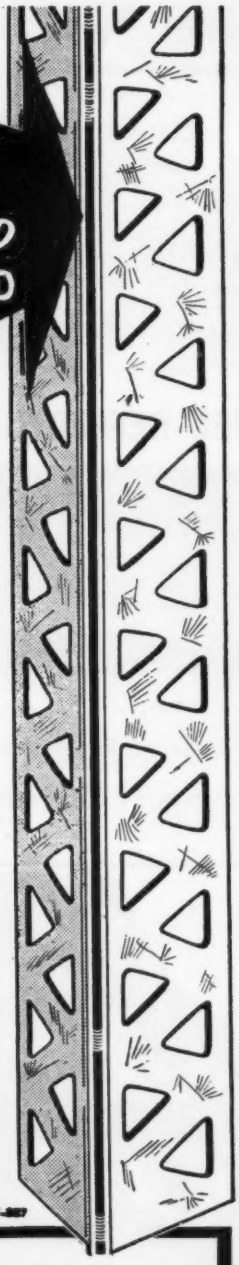
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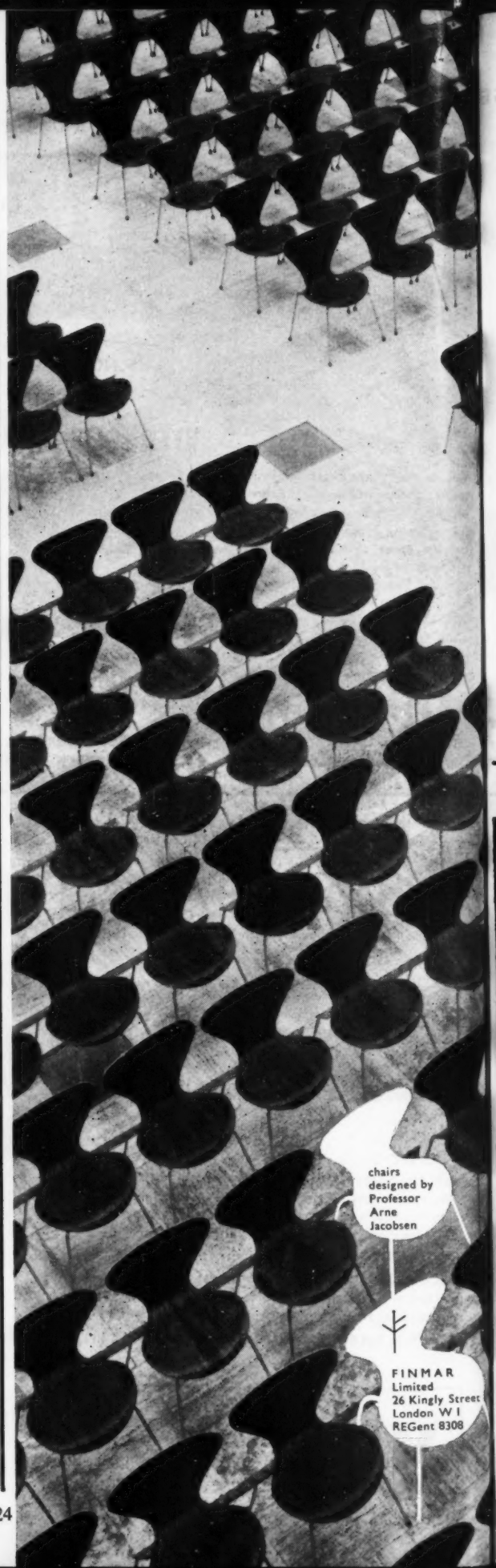


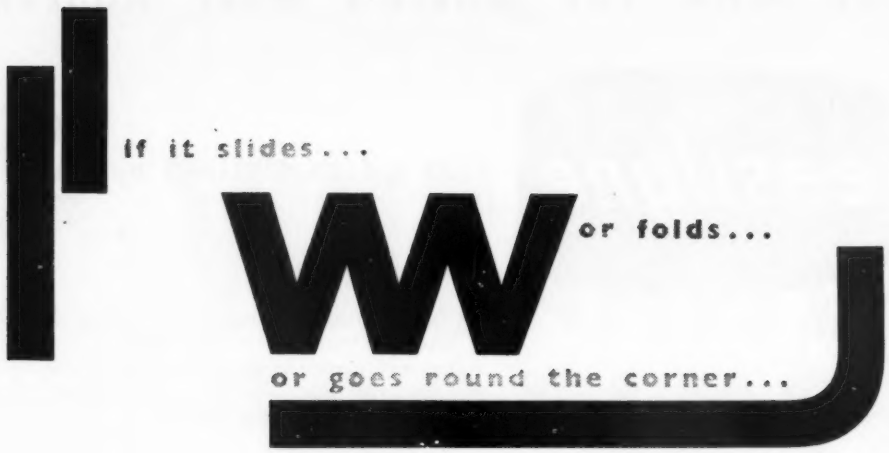


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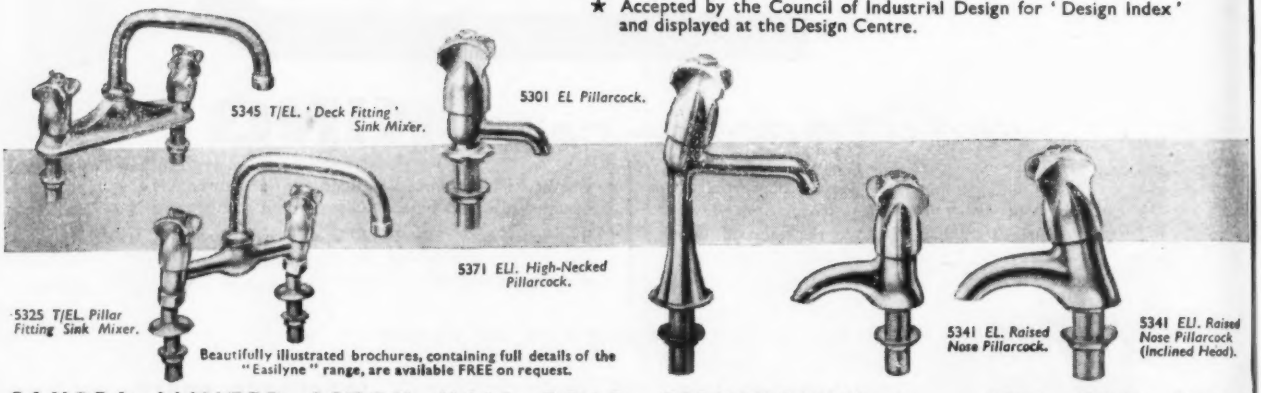
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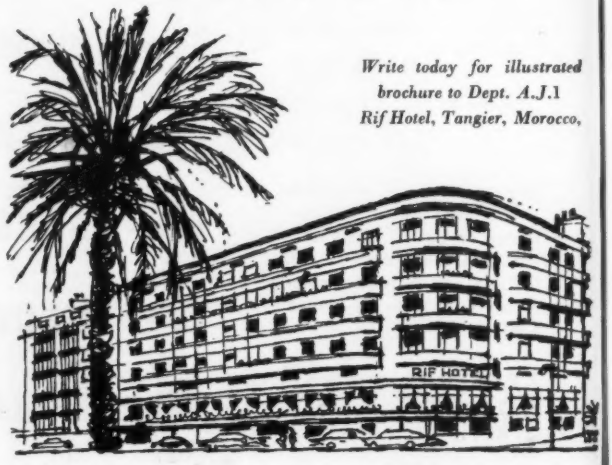
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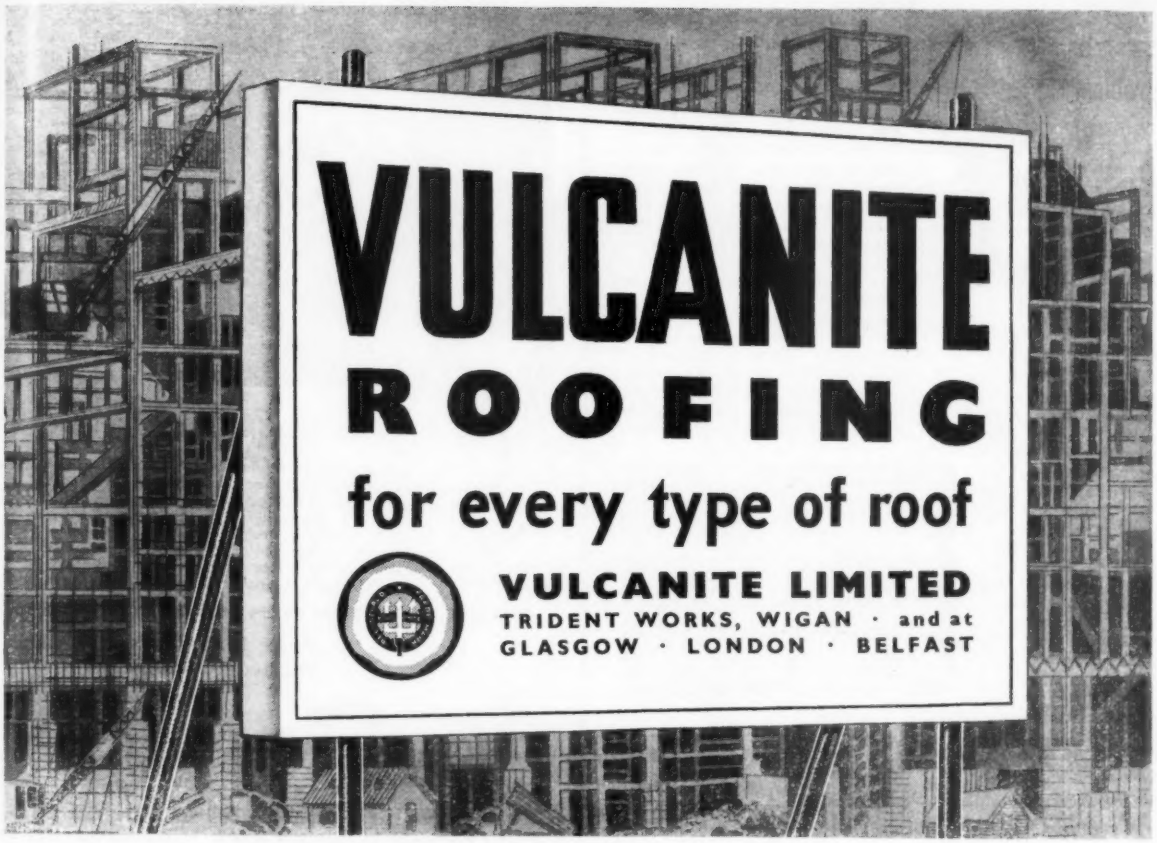
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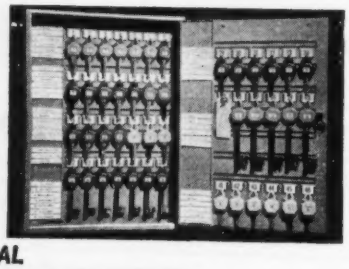
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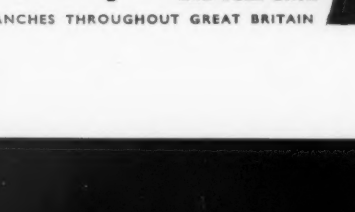
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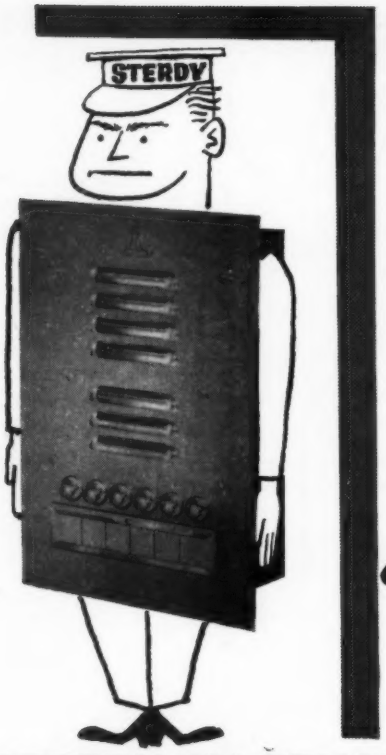
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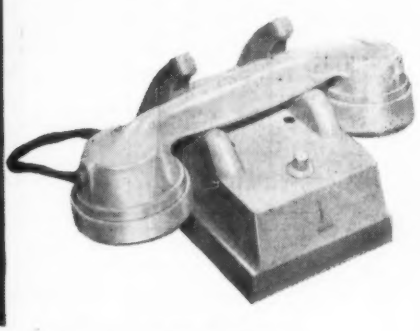
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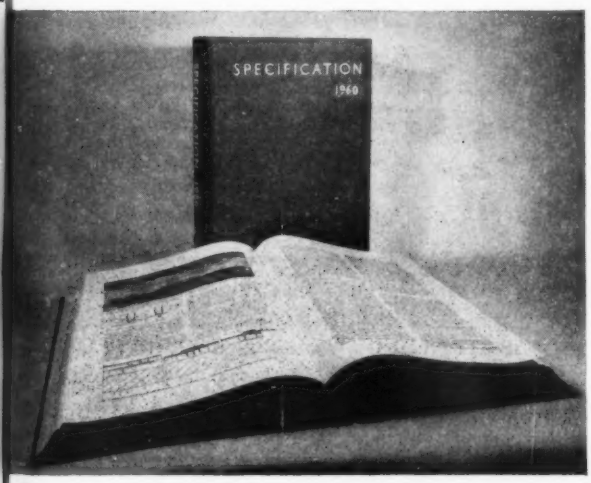
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Edited by F.R.S. YORKE, F.R.I.B.A., *assisted by* PENELOPE WHITING A.R.I.B.A.

Comprehensively revised once again, with major additions and alterations, including one entirely new section, *Landscape Work*, by J. St. Bodfan Gruffydd, F.I.L.A. covering procedure and specification clauses for landscape architects; the separation of *Timber Engineering* from *Carpenter and Joiner;* an extension on 'Supermarkets' to the *Shops* section; additional material on 'Site Investigation' by Oliver Leach, in *Excavator*. 13 by 8¾ ins., over 1500 pages (1454 last year). 35s. net, postage 3s. 3d.

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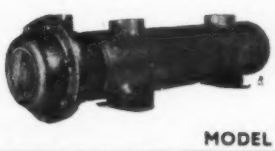


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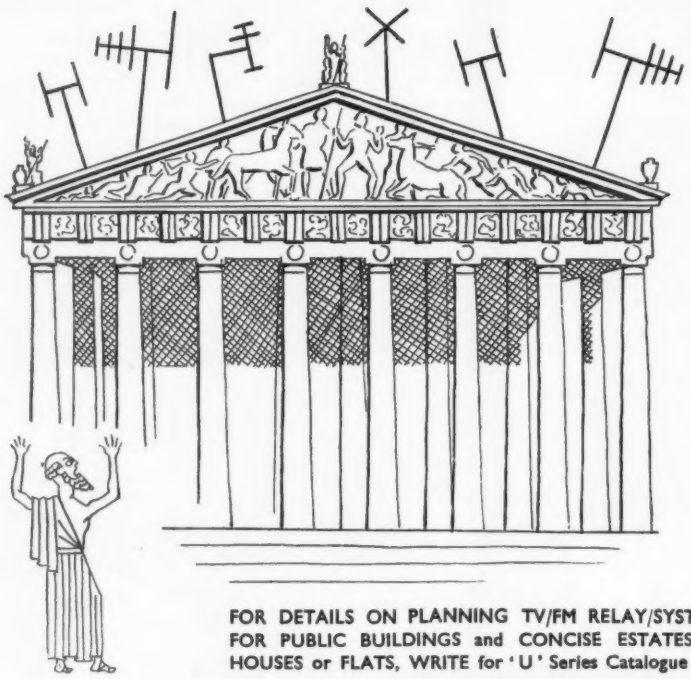


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This is the second of the two post-war books by Le Corbusier to be published in English by The Architectural Press (Concerning Town Planning *was the first). In this work Le Corbusier has collaborated with François de Pierrefeu, who has been closely associated with him for many years.*
M. de Pierrefeu contributes the introductory text, in which he outlines the principles that should be followed in the design and planning of the towns and homes of the new world so that the resources of science are fully applied to providing the best environment for the ordinary man. Le Corbusier's section of the book follows the same theme. It consists of illustrations drawn in his own inimitable style, accompanied by his own commentary, and forms the principal contents of the book.

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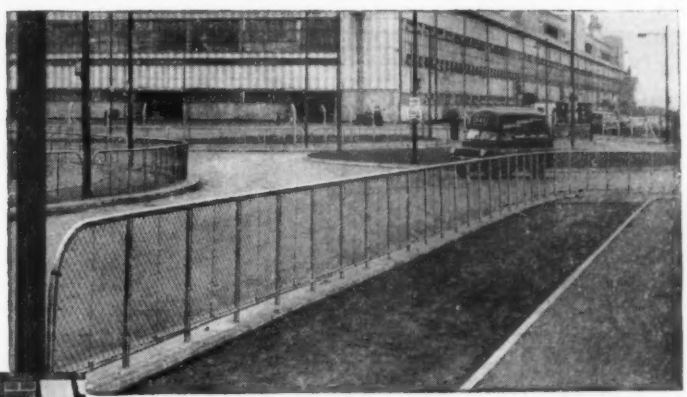
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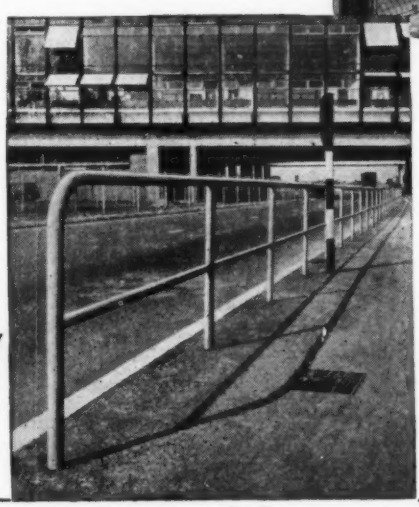
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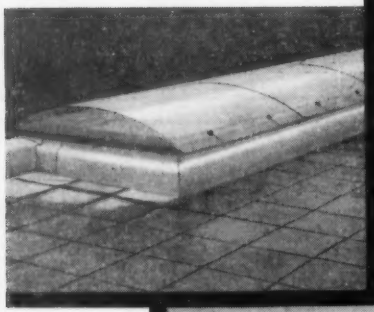
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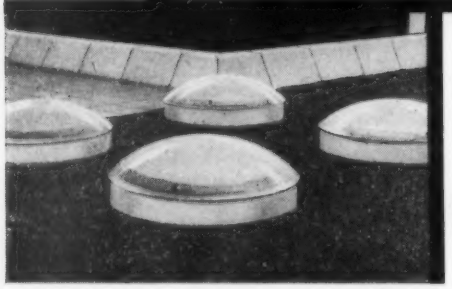
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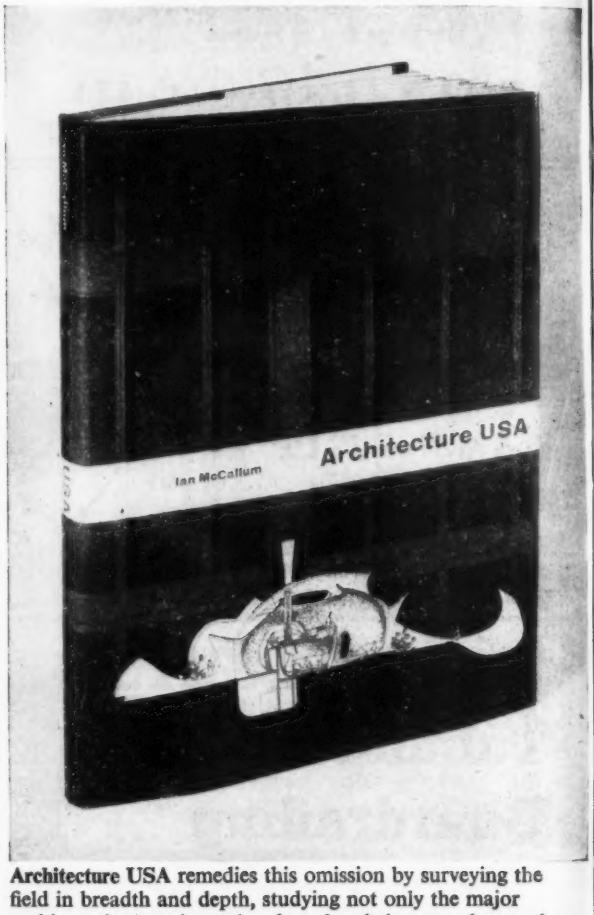
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Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

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In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

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COUNTY BOROUGH OF SOUTHEND-ON-SEA
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the following posts:—
ASSISTANT ARCHITECT, Special Classes Scale (£785 × £40 (6) × £45—£1,070).
TECHNICAL ASSISTANT (Architectural), Grade A.P.T. II (£765 × £25 (1) × £30 (3)—£880).
ASSISTANT QUANTITY SURVEYOR, Special Classes Scale (£785 × £40 (6) × £45—£1,070).
STUDENT HEATING ENGINEER (General Division salary range £210—£655).
Candidates must be suitably qualified and experienced.
The appointments will be subject to the provisions of the Local Government Superannuation Acts and the National Joint Council's Scheme of Conditions of Service so far as adopted by the Council. Medical examination.
Applications, stating age, qualifications and experience, with the names of two referees, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.
Canvassing will disqualify. Any candidate who is related to member or officer of the Council is required to disclose the fact.
ARCHIBALD GLEN,
Town Clerk.
8077

UNIVERSITY OF READING
BUILDINGS OFFICER
Applications are invited for the newly-created post of Buildings Officer. The University is now engaged in its current (1957-63) programme on the construction or planning of six major buildings, involving an expenditure of nearly £2m., and the future programme of work is likely to be on this scale.
Candidates will be expected to have had good experience in relation to large-scale building projects. Possession of an appropriate professional qualification is desirable.
The person appointed should take up his duties as soon as possible. The initial salary of the Buildings Officer will be between £1,650 and £2,000 per annum, according to age, qualifications and experience.
Further particulars may be obtained from the Registrar (Room 22, O.R.B.), The University, Reading, by whom applications should be received not later than March 5, 1960. 8243

MANCHESTER REGIONAL HOSPITAL BOARD
ARCHITECTURAL, ENGINEERING AND SURVEYING STAFF
A substantial expansion of the hospital capital building programme offers valuable opportunities to ambitious Architects, Engineers, and Surveyors. Vacancies are available in the following grades. The salary scales quoted are at present under review.
(*a*) Principal Assistant Grade Scale II—£1,195—£1,420 a year:
ARCHITECTS.
(*b*) Senior Assistant Grade—£1,050—£1,245 a year;
ARCHITECTS
QUANTITY SURVEYORS
ENGINEERS (Mechanical, Heating and Ventilating)
ENGINEERS (Electrical).
(*c*) Assistant Grade—£730—£1,055 a year;
ARCHITECTS
SURVEYORS (Land and Quantity)
ENGINEERS (Mechanical, Heating and Ventilating)
ENGINEERS (Electrical).
(*d*) Sub-professional Grade—£545—£765 a year;
ARCHITECTS
SURVEYORS (Land and Quantity).
(*e*) DRAUGHTSMEN—£445—£660 a year.
Candidates for posts listed under (*a*), (*b*) and (*c*) must possess full professional qualifications and for posts under (*d*), intermediate qualifications. Draughtsmen must have had at least 3 years' previous experience. All posts are subject to National Health Service conditions and are superannuable. Application forms, to be returned by 29th February, 1960, are obtainable from the Secretary of the Board, Cheetwood Road, Manchester, 8. 8194

BOROUGH OF ILKESTON
Applications are invited for the appointment of ARCHITECTURAL ASSISTANT within the Grade APT IV (£1,065—£1,220).
Commencing salary to be according to qualifications and experience.
HOUSING ACCOMMODATION AVAILABLE.
Canvassing disqualifies.
Application forms and conditions of appointment obtainable from A. O. Marshall, Borough Surveyor & Water Engineer, Town Hall, Ilkeston, to whom they are to be returned by Wednesday, 24th February, 1960.
J. YATES,
Town Clerk.
8207

KENT COUNTY COUNCIL
NEW POSTS are offered in the office of the County Architect to assist with the Council's expanding building programmes which include many large and interesting projects.
ARCHITECTS possessing design ability and with experience in the design and control of building projects.
A.P.T. Grade V £1,220—£1,375
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ENGINEERS with experience in the design and supervision of installations in all types of buildings.
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A.P.T. Grade IV £1,065—£1,220
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Clerical Grade I £595—£670
Candidates for posts in A.P.T. Grade IV and above must be corporate members of the appropriate professional institution. Those for the special architectural scale must have passed Parts I and II of the final R.I.B.A. examination.
The posts are on the permanent staff of the Building Department and are superannuable. Commencing salaries within the scales according to qualifications and experience. N.J.C. conditions of service.
Application forms and further details from County Architect, Springfield, Maidstone. Closing date 25th February, 1960 8167

CITY OF PETERBOROUGH
CITY ENGINEER'S DEPARTMENT
ARCHITECT'S SECTION
Applications are invited for the undermentioned appointments:—
(*i*) TWO SENIOR ASSISTANT ARCHITECTS: Grade A.P.T. IV, £1,065—£1,220 per annum.
(*ii*) TWO ARCHITECTURAL ASSISTANTS: Grade APT. II, £765—£880 per annum.
Applicants for (*i*) should be Associates of the R.I.B.A., or its equivalent at one of the recognised schools of architecture, and for (*ii*) to have passed the Intermediate examination R.I.B.A.
The assistants appointed will work as a team and will be engaged for the completion of a redevelopment scheme adjacent to the Cathedral, estimated to cost £300,000, comprising houses, flats, maisonettes, etc., in multi-storey blocks, of framed and load bearing construction. Experience in housing and flat design and cost control will be an advantage. Possibilities exist for permanent engagement for suitable assistants.
The scheme at present is in the sketch stage and assistants are required for preparing complete working and detail drawings, etc., where good draughtsmanship and knowledge of construction are essential.
Housing accommodation will be prov'ded if required.
Application forms, together with conditions of appointment, are obtainable from Mr. L. H. Robjohn, M.B.E., A.M.I.C.E., City Engineer and Surveyor, Town Hall, Peterborough, and hould be returned by 3rd March, 1960.
C. PETER CLARKE.
Town Clerk.
Town Hall,
Peterborough.
January, 1960. 8182

BUILDINGS SURVEYORS
Architect's Dept., L.C.C., has vacancies in Building Regulation Div. and District Surveyors' Service for work in connection with applications under London Building Acts and byelaws. District Surveyors' offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.
Up to £1,135 (under review) commencing accdg. to quals. and expce. Appln. form and partics. from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/111/59, County Hall, S.E.1 (2628). 8202

GLENROTHES DEVELOPMENT CORPORATION
TOWN CENTRE DEVELOPMENT
Applications are invited for appointment of THREE ARCHITECTS on Salary Grade rising to £1,375 per annum with placing according to age and experience.
Applicants should be A.R.I.B.A. and have sound experience in the design and construction of COMMERCIAL and SHOPPING Premises appropriate to Town Centre Development. Additional experience of Public Buildings and composite house and shopping, etc., projects would be an advantage.
Houses to rent available if required. Medical examination under Superannuation Scheme. Application forms from Secretary and Legal Adviser, Glenrothes Development Corporation, Glenrothes, Fife, to be returned by 18th February, 1960. 8203

BOROUGH OF HEYWOOD
APPOINTMENT OF ARCHITECTURAL ASSISTANT
Applications are invited from persons who have passed the R.I.B.A. Intermediate Examination for the above mentioned appointment in the department of the Borough Engineer and Surveyor, at a salary in accordance with A.P.T. Grade II (£765—£880) of the Scale of Salaries.
The appointment will be subject to the provisions of the Local Government Superannuation Acts, to the National Joint Council's Conditions of Service and to one month's notice in writing on either side.
The successful applicant will be required to pass a medical examination.
Consideration will be given to the provision of housing accommodation.
Applications endorsed "Architectural Assistant," stating age, qualifications and experience and accompanied by copies of two recent testimonials should reach the undersigned not later than Thursday, 25th February, 1960.
Canvassing in any form will be a disqualification.
W. R. PARKER, *Town Clerk.*
Municipal Buildings,
Heywood.
25th January, 1960. 8190

WORCESTERSHIRE COUNTY COUNCIL
Applications are invited for the post of ARCHITECTURAL ASSISTANT, Grade APT. II (£765—£880). (The vacancy is in the Section concerned with major School projects.) The County Council owns some housing accommodation for which a successful candidate may apply.
Application forms and further particulars can be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 19th February, 1960. (V.247) 8206

SURREY COUNTY COUNCIL
Applications invited for the following appointments:—
1. ASSISTANT ARCHITECT, SPECIAL GRADE (£785—£1,070 p.a. plus £30 p.a. London Allowance). This grade is particularly suitable for newly qualified Assistants. Must be A.R.I.B.A. and experienced in design and detailing.
2. ARCHITECTURAL ASSISTANTS, Grade I (£610—£765 p.a. plus up to £30 p.a. London Allowance according to age). Must be of good general training, preference given those who have passed Intermediate R.I.B.A.
Candidates will be appointed at the appropriate point within the scale according to age and ability.
Full details, present salary and three copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 8211

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
ARCHITECTURAL DRAUGHTSMEN
Unqualified architectural assistants required in the Housing Division. Candidates must have drawing board experience in an architect's office and preference will be given to those proposing to qualify by evening study though others will be considered. Full programme of new work and opportunities for promotion. Starting salaries according to age and experience. Form and particulars from Hubert Bennett, F.R.I.B.A., Architect to the London County Council, County Hall, S.E.1, quoting reference AR/EK/21/60. (180) 8136

EAST BARNET URBAN DISTRICT COUNCIL
Applications are invited for the following appointments:—
ASSISTANT ARCHITECT
A.P.T. Grade II (£765—£880)
Plus London Weighting.
ARCHITECTURAL DRAUGHTSMAN
A.P.T. Grade I (£610—£765)
Plus London Weighting.
The appointment will be subject to the National Scheme of Conditions of Service, a Medical Examination and the Local Government Superannuation Acts, 1937 and 1959.
Housing accommodation cannot be provided by the Council.
Applications in writing, stating age, qualifications and previous experience, together with the names and addresses of two referees, should be sent to The Engineer and Surveyor, Town Hall, Station Road, New Barnet, Herts, not later than Monday, 29th February, 1960. 8295

WILLENHALL URBAN DISTRICT COUNCIL
ARCHITECT'S DEPARTMENT
E. E. BANNINGTON, A.R.I.B.A.
Applications are invited for the following posts for work on an interesting and varied programme:—
ARCHITECTURAL ASSISTANT
A.P.T. II—£765—£880.
JUNIOR ARCHITECTURAL ASSISTANT
A.P.T. I—£610—£765.
The appointments will be subject to the Local Government Superannuation Acts, the National Scheme of Conditions of Service and to termination by one month's notice on either side. Housing accommodation is available and two-thirds of any removal expenses incurred will be paid by the Council.
Applications, giving details of age and experience (stating for which appointment application is made), together with the names and addresses of two referees, should reach the undersigned not later than Friday, 19th February, 1960.
JOHN R. RIDING,
Clerk of the Council.
Town Hall,
Willenhall,
Staffs. 8297

A History of Modern Architecture

by Jurgen Joedicke, translated by James Palmes

HITHERTO there has been no general history of the modern movement in architecture available in English. Professor Joedicke's book thus satisfies an important need, but it goes further than this—it is more comprehensive, yet more compact and better illustrated than any of the general histories of modern architecture available in other languages. His approach is straightforward and imposes no personal system on the material, accepting the classic distinction between the age of the Pioneers, and the age of the Masters, so that the contributions of famous architects can be found where one would expect to find them.
In addition to the dominating personalities of the movement, Professor Joedicke, who teaches at the celebrated Technische Hochschule in Stuttgart, also gives a full account of the part played by new structural materials and new spatial concepts in the creation of the new architecture, and also surveys the contributions made by the leading architectural countries of Europe and the Americas.
He thus covers the field from Joseph Paxton to Felix Candela in time, from Helsinki to Rio de Janeiro and Los Angeles in space.

Size 10½ by 7¾ ins. 244 pages with 400 halftones and 50 line illustrations, a bibliography and index. 45s. net, postage 2s. 0d.

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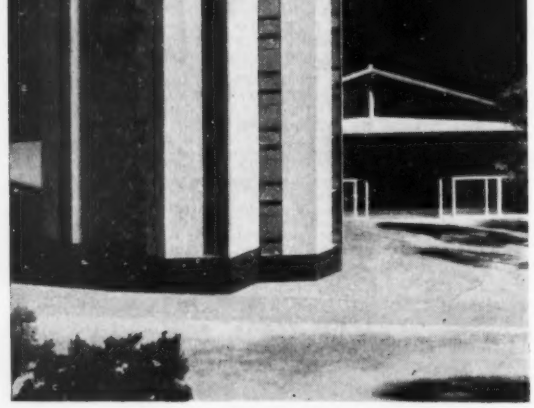
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W. R. HEADLEY, A.R.I.B.A., A.A., Dipl.,
REGIONAL ARCHITECT
Chief Civil Engineer's Office, 5a, Euston Grove, London, N.W.1.



NEW DIVISION AT COUNTY HALL

Architects

ARCHITECTS wanted for New Special Works Division set up under Geoffrey Horsfall to deal with Crystal Palace, South Bank Development, including the extension of the Royal Festival Hall, small Concert Hall and gallery, etc., and a variety of other new work. The programme is expected to last for several years after which there will be opportunities to continue on other work in the Department.

First-class Designers are wanted to match this challenging opportunity.
Grade II - £1,080 to £1,355 (under review)
Grade III - £858 to £1,135 (under review)
Assistant Architects - £710 to £895

Starting points will be according to experience and qualifications. Application form and particulars obtainable from Hubert Bennett, F.R.I.B.A., Architect to the London County Council, the County Hall, S.E.1, quoting ref. No. AR/EK/17/60.

BOROUGH OF WILLESDEN

Applications are invited for the following permanent appointments:—

(a) ASSISTANT ARCHITECT within Grade A.P.T. IV (£1,065—£1,220 p.a.).
(b) ASSISTANT ARCHITECT within Special Grade (£785—£1,070 p.a.).
(c) ARCHITECTURAL ASSISTANT within Grade A.P.T. II (£765—£880 p.a.).
(d) ARCHITECTURAL ASSISTANT within Grade A.P.T. I (£610—£761 p.a.).

London Weighting, maximum £30 p.a., is payable in addition to the above salaries.

Candidates for posts (*a*) and (*b*) must be Associates of the R.I.B.A. and should have a high ability in design, capable of supervising contracts and experience of multi-storey flats.

For one post experience of redevelopment schemes will be an advantage.

Candidates for posts (*c*) and (*d*) should have passed the Intermediate Examination of the R.I.B.A.

A programme of interesting and varied works is expected to continue for many years and opportunities are offered to imaginative designers with a contemporary and practical outlook.

The appointments will be superannuable and subject to the National Conditions of Service.

The Council is unable to assist with housing accommodation.

Forms of application and conditions of appointment may be obtained from the Borough Engineer & Surveyor, Town Hall, Dyne Road, Kilburn, N.W.6. Applications to be returned to the undersigned not later than 9 a.m. on Monday, 29th February, 1960.

(signed) R. S. FORSTER,
Town Clerk.
8292

CITY OF EDMONTON, ALBERTA, CANADA
APPLICATIONS

are invited for the following appointments Salary ranges quoted are 1959 rates, and are presently under review for 1960)

(A) PLANNER
Salary Range $5403 to $7491 per annum.
(B) TWO PLANNING ASSISTANTS, GRADE IV
Salary Range $4541 to $6342 per annum.

The successful applicant for (A) will be required to assist the Senior Planner in charge of the newly formed General Plan and Research Section in preparing reports and recommendations supported by statistical and graphic material for the General Plan for the City. Applicants should be able to analyse and recommend on industry, commerce, social functions and communications on a city and metropolitan level.

The successful applicants for (B) will be required to assist the Planner in charge of either the Development Plan and Research Group or the Design and Development Control group in preparing subdivision designs and in the analysis and writing of reports relating to development control, to meet members of the public and supervise work of the section during the Planner's absence.

Applicants for both (A) and (B) should be Associate Members of the Town Planning Institute, Town Planning Institute of Canada, or the American Institute of Planners. Preference will be given to candidates holding additional qualifications in related fields and in respect of appointment (A), preference will be given to applicant holding a degree in Economics.

Applications will be received by:
W. B. CAIRNS, Personnel Director,
CITY HALL, Edmonton, Alberta,
Canada. 8291

(Amended Advertisement)
BOROUGH OF SOLIHULL
APPOINTMENT OF SENIOR ASSISTANT ARCHITECTS AND SENIOR ASSISTANT QUANTITY SURVEYORS

Following a review of the establishment of the Architects Section of the Borough Surveyor's Department, applications are now invited from qualified architects and quantity surveyors, having suitable experience, for appointments as Senior Assistant Architects and Senior Assistant Quantity Surveyors, at a salary in accordance with A.P.T. Grade V (£1,220 per annum rising by annual increments of £50 and £55 to a maximum of £1,375 per annum).

The successful applicants will work under a Principal Assistant Architect or the Chief Quantity Surveyor as the case may be, the Section being in the charge of the Deputy Borough Architect and his Chief Assistant.

Solihull has a population of approximately 90,000 and is still expanding rapidly. It is an Excepted District under the Education Acts and is seeking County Borough status. There is a considerable programme of varied work ahead.

In suitable cases, housing accommodation will be provided and half removal expenses paid.

The appointment is subject to a satisfactory medical examination, the provisions of the Local Government Superannuation Acts, the National Scheme of Conditions of Service and to one month's notice on either side.

Applications, giving full particulars as to age, qualifications, experience and past and present appointments should be addressed to the Borough Engineer and Surveyor, 90, Station Road, Solihull, Warwickshire, so as to reach him not later than Tuesday, 1st March, 1960.

W. MAURICE MELL,
Town Clerk.

The Council House,
Solihull,
Warks.
4th February, 1960. 8261

(Amended Advertisement)
BOROUGH OF SOLIHULL
APPOINTMENT OF PRINCIPAL ASSISTANT ARCHITECT

Following a review of the establishment of the Architects Section of the Borough Surveyor's Department, applications are invited from qualified architects, with good experience and initiative, for appointment as Principal Assistant architect at a salary in accordance with a Scale commencing at £1,275 per annum and rising by 3 annual increments of £55 to a maximum of £1,440 per annum.

The successful applicant will be in charge, under the Deputy Borough Architect, and his Chief Assistant, of a drawing office staff of approximately eight, and will have the assistance of the quantity surveying, heating and ventilating and landscaping staff.

Solihull has a population of approximately 90,000 and is still expanding rapidly. It is seeking County Borough status and is an Excepted District under the Education Acts. It has approximately £250,000 of education building under construction at the present time. The 1960/61 programme includes work of approximately £380,000 in value and the future programme includes new primary and secondary schools, nursery schools, extensions and adaptations, and a considerable number of minor capital works.

In suitable cases, housing accommodation will be provided and half removal expenses paid. A casual user motor car allowance will also be payable.

The appointment is subject to a satisfactory medical examination, the provisions of the Local Government Superannuation Acts and the National Scheme of Conditions of Service, and to one month's notice on either side.

Applications, giving full particulars as to age, qualifications, experience and past and present appointments, should be addressed to the Borough Engineer and Surveyor, 90, Station Road, Solihull, Warwickshire, so as to reach him not later than Tuesday, 1st March, 1960.

W. MAURICE MELL,
Town Clerk.

The Council House,
Solihull,
Warks.
4th February, 1960. 8263

CITY OF OXFORD
CITY ARCHITECT AND PLANNING OFFICER'S DEPARTMENT

Applications are invited for the following posts:—

(*a*) SENIOR ARCHITECTURAL ASSISTANT, A.P.T. Grade IV (£1,065—£1,220). Permanent Staff (Grading under review).
(*b*) SENIOR ARCHITECTURAL ASSISTANT, A.P.T. Grade IV (£1,065—£1,220). Temporary in first instance (Grading under review).

Suitable housing accommodation, if required, will be provided by the Council for the above posts.

The successful applicants must be Members of the Royal Institute of British Architects and in both cases will be engaged mainly on educational work, should have several years experience and possess a wide knowledge of modern methods of construction and contract procedure and must be capable of carrying through contracts from sketch stage to completion with minimum supervision. A high standard of design ability and a keen interest in contemporary architecture is essential. Assistants are encouraged to control their own contracts from sketch design onwards.

(*c*) PLANNING ASSISTANT, A.P.T. I—Special Classes (£610—£1,070). Permanent Staff.

Candidates should be qualified Members of the Town Planning Institute, although consideration will be given to persons not possessing a full qualification. General work, mainly on Development Plan, including large redevelopment areas, new shopping centre, industrial estates and quinquennial review. Salary according to qualifications and experience.

Appointments subject to the National Conditions of Service; medical examination.

Application Forms to be obtained from the City Architect and Planning Officer, Town Hall, Oxford. Closing date 20th February, 1960.

HARRY PLOWMAN,
Town Clerk.

Town Hall,
Oxford. 8271

BURGH OF MOTHERWELL AND WISHAW
VACANCIES

DEPUTE ARCHITECT—must be an Associate Member of the Royal Institute of British Architects and have wide experience in architectural work. Possession of a Town Planning qualification may be an advantage. Superannuated post.

Salary Scale—£1,274 rising by 3 increments of £84 and 1 of £42 to £1,484 per annum with placing according to qualifications and experience.

Applications with copies of not more than 3 recent testimonials to Town Clerk, Town Hall, Motherwell, Lanarkshire, Scotland, on or before 5th March, 1960.

PRINCIPAL ARCHITECTURAL ASSISTANT—must be an Associate Member of the Royal Institute of British Architects. Superannuated post.

Salary Scale—£1,040—£1,120 per annum (J.I.C. Grade Admin. D) with placing according to qualifications and experience.

Applications to Burgh Architect, Motherwell House, High Road, Motherwell, Lanarkshire, Scotland, on or before 5th March, 1960. 8281

BOROUGH OF TAUNTON
ASSISTANT ARCHITECT

Applications are invited for appointment of ASSISTANT ARCHITECT in the Borough Architect's Department, Special Grade, salary £785—£1,070 per annum.

Superannuable post, subject to medical examination, and to National Conditions of Service. Applications, stating age, present position and salary, qualifications, experience and names of two referees, to be sent to C. Bacon, F.R.I.B.A., Borough Architect, Flook House, Station Road, Taunton, by 22nd February, 1960.

Canvassing will disqualify.

Consideration will be given to housing accommodation if required.

K. A. HORNE,
Town Clerk.
8236

CITY OF CARDIFF
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. Grade IV, £1,065—£1,220 per annum.
(*b*) ARCHITECTURAL ASSISTANT, A.P.T. Grade III, £880—£1,065 per annum.
(*c*) ARCHITECTURAL ASSISTANT, A.P.T. Grade II, £765—£880 per annum.

Candidates should possess the minimum qualifications and experience prescribed by the National Joint Council for Local Authorities for posts in the above mentioned grades.

The point of entry in the grades will be subject to qualifications, ability and experience.

General Conditions of Appointment may be obtained from the undersigned.

Applications, accompanied by the names and addresses of two referees, appropriately endorsed, must be delivered to me not later than the 18th February, 1960.

S. TAPPER-JONES,
Town Clerk.

City Hall,
Cardiff.
January, 1960. 8219

CITY OF WORCESTER
APPOINTMENT OF QUANTITY SURVEYOR

Applications are invited from qualified Quantity Surveyors for this appointment within A.P.T. Grade III (salary £880 to £1,065).

Housing accommodation will be offered if required and assistance given towards the cost of removal.

Applications, with the names of two referees, are to be sent to the City Engineer and Surveyor, 22, Bridge Street, Worcester, by the 17th February, 1960.

BERTRAM WEBSTER,
Town Clerk.

Guildhall,
Worcester. 8213

BOROUGH OF SCUNTHORPE

(An expanding modern town of 61,000 population, 7,895 acres, R.V. £1,084,880)

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department:—

SENIOR ASSISTANT ARCHITECTS, A.P.T. III/IV (£880—£1,220 p.a.).
ASSISTANT ARCHITECTS, A.P.T. II (£765—£880 p.a.).
ARCHITECTURAL DRAUGHTSMAN, Misc. Grade V (£650—£715 p.a.).
TOWN PLANNING ASSISTANT, A.P.T. II (£765—£880 p.a.).

Commencing salaries will be fixed according to qualifications and experience.

Housing accommodation available if required, approved removal expenses reimbursed in full.

Further information and application forms relating to the appointments may be obtained from the Borough Surveyor, Laneham Street, Scunthorpe. Completed forms must be returned to the Town Clerk, 34, High Street, Scunthorpe, not later than 22nd February, 1960. 8214

COUNTY OF CORNWALL
ASSISTANT ARCHITECT

Applications are invited from keen young Architects for a vacancy in the County Architect's department at a salary within the Special Scale £785—£1,070.

Applicants should preferably be school trained and be capable of undertaking major works with a high degree of individual freedom and responsibility.

The department has a large programme of schools and other municipal projects.

The appointment is subject to the usual conditions of Local Government Service. Applications, accompanied by the names of two persons to whom reference can be made, should reach Mr. F. K. Hicklin, A.R.I.B.A., County Architect, County Hall, Truro, not later than Monday, 22nd February, 1960.

E. T. VERGER,
Clerk of the County Council.

County Hall,
Truro.
28th January, 1960. 8237

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for ARCHITECT/PLANNERS. Tasks include three-dimensional planning in Comprehensive Development Areas and all other important areas of new development throughout London, including those associated with road improvements. Up to £1,135 (under review) according to experience and qualifications.

Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, EK/23/60, County Hall, S.E.1. (208.) 8244

BOROUGH OF BEXLEY
ARCHITECTURAL ASSISTANTS

Applications are invited for two appointments in the Borough Engineer & Surveyor's Department. The salary for each of these posts is within Grade A.P.T. II (£765—£880 per annum) plus London weighting. Preference will be given to suitably qualified candidates with experience of housing and school projects.

Form of application and conditions of appointment are obtainable from the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by Saturday, 20th February, 1960.

The Council may be prepared to assist in the provision of housing accommodation. Canvassing will disqualify.

ARTHUR GOLDFINCH,
Town Clerk.

8251

COUNTY BOROUGH OF SOUTHPORT
TEMPORARY CLERK OF WORKS

Applications are invited for the temporary appointment of a Clerk of Works to supervise the erection of houses and other major building work.

Salary £690 per annum. Candidates must have a sound knowledge of all trades, setting out, levelling, and experience in the erection of traditional public buildings. The appointment is subject to the Local Government Superannuation Acts.

Application forms may be obtained from the Borough Architect and Town Planning Officer, 99/105, Lord Street, Southport. Forms to be returned not later than 27th February. 8242

CITY AND COUNTY OF NEWCASTLE UPON TYNE
NEW TOWN HALL
APPOINTMENT OF CLERK OF WORKS

Applications are invited for the appointment of Clerk of Works in connection with the New Town Hall, the construction of which will commence March, 1960.

The salary for this appointment will be in the A.P.T. Division, Grade III, £880, rising to a maximum of £1,065 per annum.

Intending applicants should apply in the first instance for Forms of Application and further particulars to the City Architect, George Kenyon, Dip. Arch., A.R.I.B.A., Dip.T.P., A.M.T.P.I.

JOHN ATKINSON,
Town Clerk.

Town Hall,
Newcastle upon Tyne, 1.
29th January, 1960. 8245

BOROUGH OF MAIDENHEAD
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
JUNIOR ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of a Junior Architectural Assistant on Grade I to II of the National Scales (£610—£880). Commencing salary according to qualifications and experience.

Candidates must have received proper training as Architects and preference will be given to those who have an intermediate qualification.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, the satisfactory passing of a medical examination and termination by one month's notice on either side.

HOUSING ACCOMMODATION IS PROVIDED.

Applications stating age, qualifications, experience and starting salary required, accompanied by the names and addresses of two referees, must be sent to the Borough Engineer and Surveyor, 14, Craufurd Rise, Maidenhead, by Wednesday, 24th February, 1960.

Canvassing will be a disqualification and candidates must disclose whether to their knowledge they are related to any member or senior officer of the Council.

STANLEY PLATT,
Town Clerk.

Guildhall,
Maidenhead.
3rd February, 1960. 8265

COUNTY BOROUGH OF ROTHERHAM
ARCHITECTS

Applications are invited for the following appointments:—

(*a*) ARCHITECTURAL ASSISTANTS, A.P.T. I (£610—£765) to Special Grade (£785—£1,070).

(*b*) SENIOR ASSISTANT ARCHITECT, A.P.T. IV (£1,065—£1,220).

The department has a varied and interesting programme of architectural work and candidates for (*a*) are required to have passed Parts I and II of the R.I.B.A. final examination and (*b*) to be Associate Member of the R.I.B.A. with good general experience in design and construction. The commencing salary in the grades will be according to capabilities and experience.

Housing accommodation will be available if necessary for the higher grade appointment.

Applications to be endorsed "Architects," stating age, qualifications and details of experience, together with names of two referees, should be received by me not later than Friday, 26th February, 1960.

Canvassing will disqualify.

JOHN S. WALL,
Town Clerk.

Municipal Offices,
Rotherham.
February, 1960. 8266

SOUTH WESTERN ELECTRICITY BOARD

Applications are invited for the following permanent pensionable position at Electricity House, Colston Avenue, Bristol.

ENGINEERING DRAUGHTSMAN (CIVIL).

Salary within Grade 6—£620×£20 to £740 per annum—of Schedule 'D' of the N.J.B. Agreement.

Candidates should have experience in the taking off, Abstracting and Billing of Quantities, have a working knowledge of Reinforced Concrete Design and be fully conversant with up-to-date methods of Building Construction.

Excellent conditions of service, including 5-day week, social and sports facilities, canteen, superannuation, holiday and sickness schemes.

Applications to be made on Standard Form AE6/ACT obtainable by postcard only *from the Establishments Officer, South Western Electricity Board Electricity House, Colston Avenue, Bristol,* 1. *Closing date for receipt of completed applications is 27th February,* 1960. 8303

ROYAL COUNTY OF BERKSHIRE
ASSISTANT ARCHITECT—SPECIAL GRADE
£780—£1,070

Candidates should have had good architectural training and possess energy, ability and initiative.

Opportunities for obtaining a good general experience exist in this expanding County, and in particular, work is now in hand for Police Divisional Headquarters, Courts and Colleges of Further Education.

The Council have a number of staff houses and flats, some of which become available from time to time, and assistance is given with removal expenses.

Application form and further particulars can be obtained from:—

J. T. Castle, A.R.I.B.A., A.M.T.P.I.,
County Architect,
Wilton House,
Parkside Road,
Reading,

to whom they should be returned not later than Tuesday, 23rd February, 1960. 8324

ADMINISTRATIVE COUNTY OF LEICESTER

(*a*) SENIOR ASSISTANT ARCHITECT £1,075—£1,220.

(*b*) ASSISTANT ARCHITECT £785—£1,070.

Candidates for (*a*) must be chartered members of the R.I.B.A., have had considerable experience and be capable of taking charge of contracts from inception to completion: for (*b*) must have passed Parts I and II of the R.I.B.A. final and be capable of executing working drawings.

Lodging allowance and removal expenses may be paid to a married man.

Apply by February 26th on form obtainable from County Architect, 123 London Road, Leicester. 8267

THE RURAL DISTRICT COUNCIL OF GODSTONE
ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) CHIEF ARCHITECTURAL ASSISTANT, A.P.T. IV (£1,065—£1,220).

Applicants must be Associates of the Royal Institute of British Architects and have had experience in the design and construction of Local Authority housing.

The Council will assist in the provision of housing accommodation, if required. A car allowance on the essential user basis (not exceeding 10 h.p. or 1,199 c.c.) is payable.

(*b*) JUNIOR PLANNING ASSISTANT. A.P.T. I (£610—£765).

Preference will be given to candidates who have passed the Intermediate Examination of the Town Planning Institute.

The appointments will be subject to: (*i*) the provisions of the Local Government Superannuation Acts, (*ii*) the National Scheme of Conditions of Service, (*iii*) one month's notice in writing on either side.

Applications stating age, qualifications and experience, together with the names and addresses of two persons to whom reference may be made, should reach the undersigned not later than 24th February, 1960.

M. HAWORTH,
Clerk of the Council.

Council Offices,
Oxted, Surrey.
1st February, 1960. 8296

COUNTY BOROUGH OF SOUTH SHIELDS

Applications are invited for the following appointments in the Quantity Surveying Section of the Borough Engineer's Department.

(*a*) PRINCIPAL ASSISTANT QUANTITY SURVEYOR

Applicants must be Associates of the Royal Institution of Chartered Surveyors and the salary paid will be in accordance with Grade IV (£1,065 to £1,220).

(*b*) MEASURING SURVEYOR

Applicants must have experience of site measurement for and including preparation of interim certificates and final accounts and be capable of working without supervision and the salary paid will be in accordance with Grade I/II (£610—£880) according to age and experience.

Housing accommodation will be made available to the successful applicants if necessary.

The selected applicants for both appointments will be required to pass a medical examination for purposes of the Superannuation Acts.

Application forms are obtainable from the Borough Engineer, Town Hall, South Shields, and should be returned to him not later than 10.0 a.m. on Friday, 26th February, 1960.

R. S. YOUNG,
Town Clerk.

8327

COUNTY BOROUGH OF CROYDON
ARCHITECTURAL STAFF

Applications are invited for the following pensionable appointments under the School Architect (C. T. Ayerst, A.R.I.B.A.)

(*a*) SENIOR ASSISTANT ARCHITECT, R.I.B.A. Final required. Grade A.P.T. IV (£1,095 to £1,250 p.a.).

(*b*) ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£630 to £795 p.a.) or, with R.I.B.A. Intermediate, Grade A.P.T. II (£785 to £910 p.a.) both progressing to £1,100 p.a. with R.I.B.A. Final.

Salaries will commence within the scales according to experience. Interesting projects will include large extensions to Secondary Schools. Five-day week in operation.

Application form and further particulars from The Chief Education Officer, Katharine Street, Croydon, Surrey.

Closing date 4th March, 1960.

E. TABERNER,
Town Clerk.

8359

4,000 YEARS OLD AS GOOD AS NEW

Read this extract from

AN AMAZING REPORT ON WESTMORLAND GREEN SLATE

My own axe head picked up on the screes below Pike o' Stickle many years ago looks exactly as if it was chipped out last week. There is not a sign of weathering on the lovely grey, green surface and the edges are still sharp enough to demand careful handling. Yet it had lain on this scree slope for something like 4,000 years and had been fashioned not many yards away by some hairy, prehistoric man 2,000 years before the dawn of Christianity.

from
'Leaves from a Lakeland Notebook'
by A. H. Griffin.

items manufactured 40 centuries ago

For
CLADDING
be *sure* and specify
HIGH FELL WESTMORLAND GREEN SLATE

Our leaflet on this subject received RIBA/Building Centre Award 1958 and together with literature on other applications is available on request.

Limestone & Green Slate Slab Co. Ltd., Appleby Rd., Kendal

COUNTY BOROUGH OF WALLASEY
APPOINTMENTS OF
ARCHITECTURAL STAFF

Applications are invited from appropriately qualified persons for the following appointments in the Borough Architect's Department:—

(a) ASSISTANT ARCHITECTS, Special Grade, £785—£1,070.

(b) ARCHITECTURAL ASSISTANTS, Grade A.P.T. III, £610—£880.

Commencing salaries will be according to capabilities and experience, and in connection with (a) favourable consideration will be given to the provision of housing accommodation. Conditions of employment and forms of application obtainable from the Borough Architect, Town Hall, Wallasey, to whom they should be returned by 22nd February, 1960.

A. C. HARRISON,
Town Clerk.
8359

STROOD RURAL DISTRICT COUNCIL
CHIEF ASSISTANT ARCHITECT

Applications are invited for the appointment of a Chief Assistant Architect in the Department of the Engineer and Surveyor within the Special Grade of the National Scale (£785—£1,070).

Candidates must be Associate Members of the Royal Institute of British Architects and must have had at least five years' experience in the design of houses and other public buildings.

Motor transport required in connection with the appointment will be provided and maintained by the Council and consideration will be given to the provision of housing accommodation for the successful candidate.

The appointment is subject to the National Scheme of Conditions of Service, to the provisions of the Local Government Superannuation Acts, 1937-1953, and satisfactory medical examination, and is terminable by one month's notice on either side.

Applications, together with the names and addresses of two referees, must be delivered to the undersigned by 9 a.m. on Monday, 22nd February, 1960.

Canvassing, either directly or indirectly, will disqualify.

A. E. STROUD,
Clerk of the Council.

Council Offices,
Frindsbury Hill,
Strood, Kent.
11th February, 1960. 8360

CAERNARVONSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

Applications invited for post of SENIOR PLANNING ASSISTANT, A.P.T. III/IV (£880—£1,220). Applicants should be corporate members of the Town Planning Institute or hold an equivalent qualification. They should have had experience in preparation of development plans and preferably including comprehensive development areas.

Commencing salary according to qualifications and experience.

Housing accommodation available if required.

Further particulars and application forms from Clerk of County Council, Caernarvon. Closing date 27th February. 8355

BOROUGH OF GUILDFORD
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT

Applications are invited for:

(a) TOWN PLANNING ASSISTANT, A.P.T. II-III (£765—£1,065).

(b) ARCHITECTURAL ASSISTANT, A.P.T. I (£610—£765).

(c) ENGINEERING TRAINEE, GENERAL DIVISION (£240—£595).

For (a) applicants should be studying for Associate Membership of the Town Planning Institute and have at least five years' experience in Town Planning.

For (b) applicants should have had a good training in design and construction in general architectural work and housing.

For (c) applicants must have obtained a G.C.E. with passes at Ordinary Level in English, Elementary Mathematics and two Science subjects.

Applications together with the names and addresses of two referees must be sent to the Borough Engineer and Surveyor, Municipal Offices, High Street, Guildford, by Monday, 22nd February, 1960.

HERBERT C. WELLER,
Town Clerk.
8340

THE URBAN DISTRICT COUNCIL OF
SEVENOAKS
APPOINTMENT OF TECHNICAL ASSISTANT

Applications are invited for the appointment of a Technical Assistant in the Engineer and Surveyor's Department at a salary in accordance with A.P.T. Grade I (£610—£765 per annum)

The appointment will be subject to the provisions of the Local Government Superannuation Acts and the National Scheme of Conditions of Service and to the passing of a medical examination.

Applications, stating age, education, qualifications and details of previous experience, together with the names of three persons to whom reference may be made, should be sent to the undersigned in sealed envelopes suitably endorsed by the 22nd February, 1960.

Housing accommodation will be made available if required.

A. F .E. DAVIS,
Clerk of the Council.

Council Offices,
Argyle Road,
Sevenoaks, Kent. 8353

CANNOCK URBAN DISTRICT COUNCIL
AMENDED ADVERTISEMENT
SENIOR ASSISTANT ARCHITECT

Applications are invited for this appointment in the Architect's Department of the Council at a salary in accordance with Grade A.P.T. IV (£1,065 per annum—£1,220 per annum).

Housing accommodation available if married.

Further particulars may be obtained from the undersigned, to whom applications should be submitted by Monday, 29th February, 1960.

H. C. ALLEN,
Clerk of the Council.

Council House,
The Green,
Cannock. Staffs.
February, 1960. 8354

IMPERIAL CHEMICAL INDUSTRIES LIMITED, PLASTICS DIVISION, has vacancies for two ARCHITECTURAL ASSISTANTS of Final standard for employment in the Civil/Architectural Section of its Engineering Department at Welwyn Garden City.

It is implicit in the function of this Section that it should co-operate easily with other technical staffs both inside and outside the Chief Engineer's Department.

The work is interesting and varied and will include site development with multi-storey R.C. and steel frame buildings to house manufacturing plant and all ancillaries such as offices, laboratories, amenity and welfare buildings.

Five-day, 39-hour week. Pension and Profit Sharing schemes in operation.

Apply briefly to the Staff Manager, Imperial Chemical Industries Limited, Plastics Division, Black Fan Road, Welwyn Garden City, Herts. 8332

BOROUGH OF HENDON
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
SENIOR ASSISTANT ARCHITECT
GRADE A.P.T. V

Applications are invited for the above appointment at a commencing salary, according to experience, within the Grade A.P.T. V (£1,220 to £1,375), plus London weighting.

Applicants must be Associate Members of the Royal Institute of British Architects.

Pensionable post. Subject to National Scheme. Medical examination. The Council is prepared to consider the provision of housing accommodation in circumstances approved by them.

Applications with full details, together with names and addresses of two referees, must reach the Borough Engineer and Surveyor at the undermentioned address by 29th February, 1960. Canvassing will disqualify.

R. H. WILLIAMS,
Town Clerk.

Town Hall,
Hendon, N.W.4. 8331

METROPOLITAN BOROUGH OF BATTERSEA

Applications are invited for the following permanent appointments:—

(i) ASSISTANT ARCHITECT—A.P.T. Grade III (£880—£1,065 per annum).

(ii) ARCHITECTURAL ASSISTANT—A.P.T. Grade I (£610—£765 per annum).

London weighting £10—£30 per annum, according to age, also payable.

For appointment (i) applicants should be registered architects or have passed the Final R.I.B.A. Examination and have had several years' thorough office experience. Previous Local Government experience is not essential. The commencing salary will be according to qualifications and experience.

Further particulars and application forms obtainable from the Borough Engineer & Surveyor, Town Hall, S.W.11. Closing date 17th February, 1960. 7960

QUANTITY SURVEYING ASSISTANTS, GRADE III, required by AIR MINISTRY in the PROVINCES. Duties include abstracting and billing, site measurement and preparation of estimates. Candidates must hold O.N.C. (Building or Builders' Quantities) or equivalent and have good experience under Quantity Surveyor or Building Contractor. Knowledge W.D. Schedule an advantage. Financial assistance and time off given for recognised courses of study. Promotion and pension prospects. Five-day week with 18 days' leave a year initially. Overseas tours for which special allowances granted.

Salary ranges from £680 (at age 26) to £850. Commencing salary dependent upon age, qualifications and experience. Applicants, who must be natural born British subjects, should write stating age, qualifications and previous appointments including type of work done, to Manager (P.E.2) Professional and Executive Register, Ministry of Labour, Atlantic House, Farringdon Street, London, E.C.4. No original testimonials should be sent. Candidates selected will normally be interviewed in London and certain expenses reimbursed. Only applicants selected for interview will be advised. 8336

GLENROTHES DEVELOPMENT
CORPORATION

ARCHITECT/PLANNER required on grade £1,220 to £1,375 with placing according to qualifications and experience. Applicants should be Associates of R.I.B.A. and T.P.I. with general architectural and planning experience particularly in the field of Civic Design, including the layout of large residential developments, central and industrial areas. Medical examination for entry to the Superannuation Scheme. House to rent available if required. Application forms from the Secretary and Legal Adviser, Glenrothes Development Corporation, Glenrothes, Fife, to be returned by 20th February, 1960. 8322

THE TYRONE COUNTY EDUCATION COMMITTEE invites applications for the post of SECTION ARCHITECT in the Education Offices, Omagh, for which a salary up to £1,260 according to qualifications and experience will be paid.

Applicants should be capable of contemporary design of a high standard and of taking complete charge of the design, working drawings and supervision of contracts. Possession of a car is essential and appropriate travelling expenses will be paid. Removal expenses may be granted to married applicants.

Applications on forms from Chief Education Officer, Education Offices, Omagh, should be lodged with him within two weeks of the appearance of this notice. 8343

COUNTY COUNCIL OF DUNBARTON

DUNBARTON COUNTY COUNCIL invite ARCHITECTS practising or resident in Great Britain and Northern Ireland to submit in OPEN COMPETITION DESIGNS for COUNTY COUNCIL OFFICES on a site fronting Route A.82 at CROSSLET, DUMBARTON. The Assessors will be Mr. F. R. Wylie, F.R.I.B.A., Glasgow; Professor J. H. Napper, F.R.I.B.A., Newcastle-upon-Tyne, and Mr. James Mottram, A.R.I.B.A., Edinburgh, President of the Royal Incorporation of Architects in Scotland.

The Competition will be run in two stages, the six successful competitors at the First Stage taking part in the Second Stage. Each of these six competitors will receive the sum of £400, subject to conditions, for the work involved in the preparation of the Second Stage entry and the premium for the design placed First will be £1,500.

The conditions will be available after 15th February, 1960, from the County Clerk, County Buildings, Church Street, Dumbarton.

A deposit of two guineas which must accompany all applications for the conditions, will be returned on receipt of a bona fide design, or, in the event of the applicant declining to compete, on the return of the competition documents at least four weeks before the date for submitting designs for the First Stage.

The last day for the receipt of First Stage designs will be 30th July, 1960.

JOHN F. MILLER,
County Clerk.

County Buildings,
Dumbarton.
1st February, 1960. 8342

CITY and ROYAL BURGH of DUNFERMLINE
SENIOR ASSISTANT ARCHITECT

Applications are invited for the above post on salary scale £795—£1,075 with placing according to age, qualifications, and experience. The post is superannuable and subject to medical examination.

Applicants should be members of the Royal Institute of British Architects with at least three years' experience since qualification.

Applications stating age, experience, qualifications, and details of present appointment together with copies of recent testimonials to be lodged with the Burgh Architect, 6 Abbot Street, Dunfermline.

The post has been designated by the Town Council for priority housing.

J. DOUGLAS,
Town Clerk.

City Chambers,
Dunfermline.
3rd February, 1960. 8315

EAST ANGLIAN REGIONAL HOSPITAL
BOARD

ASSISTANT ARCHITECTS. Candidates must be qualified and registered architects by examination. Salary £730—£1,055 per annum: additional increments within scale based on experience and age may be granted.

ARCHITECTURAL ASSISTANTS. Candidates must have passed intermediate examination of R.I.B.A. Salary £545 (at 21 or over)—£765: commencing figure may be fixed at point above minimum but will not exceed £630.

These appointments are for work on major development schemes and offer considerable scope for gaining experience on large scale hospital projects. Both salary scales are under review. Applications stating age, qualifications, experience and details of present position (salary, etc.) with names of three referees to Secretary of Board, 117 Chesterton Road, Cambridge, by 24th February, 1960. 8264

COUNTY BOROUGH OF NORTHAMPTON

Applications are invited for the following appointments:

(a) SENIOR TOWN PLANNING ASSISTNAT. A.P.T. V (£1,220—£1,375).

(b) TOWN PLANNING ASSISTANT. Special Scale (£785—£1,070).

(c) ASSISTANT ARCHITECT. Special Scale (£785—£1,070).

In the case of post (a) a car allowance will be payable in appropriate circumstances.

Full particulars and application forms, returnable by 24th February, from Borough Architect and Town Planning Officer, Guildhall, Northampton.

C. E. VIVIAN ROWE, *Town Clerk.*
8262

LANCASHIRE COUNTY COUNCIL

Applications are invited from qualified ARCHITECTS of initiative, keen on design and modern constructional methods for a large and varied programme.

Permanent posts in A.P.T. Grade V (£1,220—£1,375). Starting point according to experience. Previous applicants should not re-apply.

Application forms from the County Architect, P.O. Box 26, County Hall, Preston, quoting reference A/AJ. 8287

COUNTY BOROUGH OF PRESTON
APPOINTMENT OF SENIOR ARCHITECT
(Salary APT V—£1,220—£1,375)

Applications are invited for the abovementioned appointment in the Borough Surveyor's Department. Candidates must be Registered Architects and Corporate members of the R.I.B.A.

The programme of works is large and varied and the appointment affords opportunities for good experience, particularly in educational buildings.

The National Scheme of Conditions of Service and Local Superannuation Acts apply, and the successful applicant will be required to pass a medical examination.

Forms of application can be obtained from the undersigned, to whom they must be returned, completed, not later than 29th February, 1960.

W. E. E. LOCKLEY,
Town Clerk.

Municipal Building,
Preston. 8293

BRITISH TRANSPORT COMMISSION
OFFICE OF THE ARCHITECT
ASSISTANT ARCHITECT.

Salary Range: £943—£985 p.a.

Applicants must be Associates of the R.I.B.A. or have passed the final R.I.B.A. examinations qualifying for Associateship. There are good prospects for promotion in the Commission's service for young architects with design ability, willing to contribute to the execution of a challenging programme of modernisation.

Superannuation scheme; certain travel facilities; medical examination.

Write stating age, qualifications and experience to Director of Establishment, British Transport Commission, 222 Marylebone Road, London, N.W.1, within 14 days. Addressed envelope for acknowledgment. 8300

BASILDON DEVELOPMENT CORPORATION
DEPARTMENT OF ARCHITECTURE & PLANNING

Applications are invited from planners to work in a team engaged on the implementation of the Master Plan proposals for a New Town with an ultimate population of at least 100,000 (present population 50,000). In particular, comprehensive redevelopment proposals for existing communities, which will become the outer residential neighbourhoods, offer unique and varied experience in all aspects of forward planning and civic design.

Appointment will be on APT. II or III within the salary range £765—£1,065 according to qualifications and experience, and is superannuable subject to medical examination. Rented housing may be available.

Applications on the special form (obtainable from the Chief Architect/Planner) to the General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, by Friday, 19th February, 1960. 8307

NORTHERN IRELAND HOUSING TRUST
SENIOR ASSISTANT ARCHITECT

The Trust invites applications for the post of Senior Assistant Architect on the salary scale £1,400—£1,600.

Candidates must be Associate Members of the Royal Institute of British Architects.

The person appointed will be required to participate in a contributory superannuation scheme which allows for the reciprocal transfer of benefits in local government schemes.

Assistance in obtaining housing accommodation may be given to a successful married candidate.

Applicants should apply by Monday, 29th February, 1960, giving full details of age, qualifications, and experience, including present post and salary, to the General Manager, Northern Ireland Housing Trust, 12 Hope Street, Belfast, 12.

Please mark envelope 33/79. 8321

BASILDON DEVELOPMENT CORPORATION
DEPARTMENT OF ARCHITECTURE & PLANNING

Applications are invited for the appointment of SENIOR ARCHITECT, Grade APT. IX £1,527—£1,755.

An Associate of the R.I.B.A. with outstanding ability in housing layout and design is required to lead a Section on an extensive programme of development and redevelopment. The evolution of the New Town to its ultimate population of at least 100,000 from the present population of 50,000 now creates exceptional opportunities for advanced layout and design.

The appointment is superannuable and subject to medical examination.

House or flat available.

Applications on the special form (obtainable from the Chief Architect/Planner) must be made to the General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, by Friday, 26th February, 1960. 8308

BOROUGH OF FINCHLEY
TEMPORARY ARCHITECTURAL ASSISTANT
HOUSING DEPARTMENT

Salary within Grade A.P.T. I (£610×£30×£35—£765). London Weighting Additional.

Candidates must have had practical experience in the preparation of working drawings and detailing for new developments and conversions.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply and medical examination required.

Applications, stating age and full particulars of qualifications and experience, with the names of two referees to the Borough Housing Officer, The Avenue, Finchley, N.3, by first post on Wednesday, 24th February, 1960.

R. M. FRANKLIN,
Town Clerk.
8319

BEDFORDSHIRE COUNTY COUNCIL
(Amended Advertisement)

Applications are invited from suitably qualified persons for two posts of ASSISTANT AREA PLANNING OFFICER in County Planning Dept., Salary within scale £1,065—£1,220. Application forms and further particulars from Establishment Officer, Shire Hall, Bedford. Closing date 29th February. 8268

LONDON COUNTY COUNCIL

ARCHITECTS (up to £1,135 (under review)) reqd. for Housing, Schools, and General Divns. Full and varied programme of new work incl. schools, multi-storey flats and Town Development. Starting sals. accdg. to quals. and expce.

Partics. and appln. forms from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/113/59 County Hall, S.E.1. (2630.) 8328

NORTH RIDING COUNTY COUNCIL
APPOINTMENT OF COUNTY ARCHITECT

It is proposed to amalgamate two (existing) Architectural departments, one doing Education buildings and the other general County, and applications are invited from registered architects to take charge of the combined department. Salary £3,204 per annum, rising by increments to £3,539 per annum. For further particulars and form of application write to the Clerk of the County Council, County Hall, Northallerton, Yorkshire. Completed applications to be returned by 5th March, 1960. 8333

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Architectural Assistant required in Engineer and Surveyor's Department. Salary Grade A.P.T. II (£765—£880 per annum) plus London weighting. Preference to candidates with R.I.B.A. (Inter) Examination.

Applications, giving age, training, qualifications and experience and names of two referees, to the Clerk, Council Offices, Sidcup Place, Sidcup, by 21st February, 1960. 8269

MIDLANDS ELECTRICITY BOARD
ARCHITECTURAL DRAUGHTSMAN required on the Chief Engineer's Staff at Board Headquarters.

Duties will involve (under supervision) site surveys, preparation of site layouts, sketch plans, detail and working drawings for office blocks, stores, workshops, garages and Service Centre buildings. Intermediate R.I.B.A. an advantage.

Salary £790/£890 per annum (N.J.B. Schedule 'D,' Grade 5). Superannuable.

Apply, by letter, within 14 days, stating age, experience, present salary and position to The Secretary, Midlands Electricity Board, Mucklow Hill, Halesowen, Nr. Birmingham.

F. W. CATER,
Secretary.
8270

COUNTY BOROUGH OF SUNDERLAND
CHIEF ASSISTANT ARCHITECTS
(£1,065—£1,220)

SENIOR ASSISTANT ARCHITECT (£785—£1,070)

Applications are invited for the above posts. Commencing salaries according to qualifications and experience. Particulars of the appointments obtainable from Borough Architect, Grange House, Stockton Road, Sunderland.

Applications must be addressed to me and received at my Office, Town Hall, not later than 24th February, 1960.

Canvassing will disqualify.

G. S. McINTIRE,
Town Clerk.
8280

COUNTY BOROUGH OF GREAT YARMOUTH
SCHOOLS ARCHITECT'S DEPARTMENT

Applications are invited from Associate Members of the R.I.B.A. for a SENIOR ASSISTANT ARCHITECT within APT. IV (£1,065—£1,220).

Preference will be given to candidates who have had experience on school work.

Housing accommodation will be available to the successful candidate if married. Assistance with removal expenses may be given in suitable cases.

Full details of present and past appointments, age, qualifications and experience, together with the names of two referees, should reach the Schools Architect, 22 Euston Road, Great Yarmouth, by 26th February, 1960.

D. G. FARROW,
Chief Education Officer.

22 Euston Road,
Great Yarmouth. 8274

CLACTON URBAN DISTRICT COUNCIL
ARCHITECTURAL ASSISTANT.
GRADES APT. I/II (£610—£880)

Applications are invited for the above appointment. Salary to be within the above grade, according to experience. Preference will be given to holders of the Intermediate Examination of the R.I.B.A.

Further particulars and forms of application may be obtained from the Engineer & Surveyor, Town Hall, Clacton-on-Sea, and applications must be delivered, duly completed, in a plain sealed envelope endorsed 'Architectural Assistant,' to the undersigned by not later than first post on 29th February, 1960.

CHARLES B. HEARN,
Clerk of the Council.

Town Hall,
Clacton-on-Sea. 8285

Architectural Appointments Vacant

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

ASSISTANTS required for busy Architect's City office; Laboratory and Industrial projects. Intermediate standard or above. Apply to: Secretary, Fairtlough and Morris, Temple Chambers, Temple Avenue, E.C.4. FLE. 6262. 8038

RONALD WARD & PARTNERS have immediate vacancies for ASSISTANT ARCHITECTS with initiative and some experience, for interesting, commercial, industrial and civic projects. Salaries commensurate with ability. Apply, 29, Chesham Place, S.W.1. BELgravia 3361. 8032

ARCHITECTURAL ASSISTANT at Final standard required by Buckinghamshire office. Interesting and varied work with scope for initiative and responsibility. State age, experience and salary required to Box 5871. 8033

ARCHITECTURAL ASSISTANTS, Senior and Junior, required by firm in High Wycombe for commercial and industrial schemes. Scope for responsibility and experience. Five-day week. Write Box 6636. 8035

TREHEARNE & NORMAN, PRESTON & PARTNERS, have vacancies for ARCHITECTS and ASSISTANTS with imagination and designing ability to assist with important new developments in the London area. Apply in confidence to 83, Kingsway, London, W.C.1. (HOL. 4071.) 6420

QUALIFIED ASSISTANT ARCHITECTS required, minimum three years' office experience, preferably in London. Minimum salary £1,000 according to ability and experience. Thos. H. Birks, 38, Portland Place, W.1. LAN 7235. 7156

INTERMEDIATE standard ASSISTANTS required, minimum two years' office experience. Minimum salary £750 according to ability. Thos. H. Birks, 38, Portland Place, W.1. LAN. 7235. 7157

SENIOR ARCHITECTURAL ASSISTANTS and JUNIORS up to about Intermediate standard, required for varied industrial and commercial work in West End Office. Scope for initiative and advancement. Salary from £500 to £1,000 according to age and experience. Five-day week. Write, giving full details, to Box 7220. 7220

ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1. 7223

ARCHITECTURAL ASSISTANTS of Final and Intermediate standard required for work on industrial buildings. Excellent opportunities in an expanding London office. Apply, stating age, experience and salary range, to the Chief Architect, Nuclear Civil Constructors, 82/83, Carnaby Street, London, W.1. 7433

NORMAN & DAWBARN require experienced ARCHITECTS for interesting projects both here and overseas. Applicants should be good designers. Salaries from £900 upwards. Phone or write for an appointment to 7, Portland Place, W.1. 7746

LEWIS SOLOMON, KAYE & PARTNERS, rapidly expanding practice, require ARCHITECTS and ASSISTANTS with initiative and competence to work on major design projects in the London area. These projects include Comprehensive Development Schemes, Hotels, Schools, Offices, and Luxury Flats. Good salaries according to ability and experience, luncheon vouchers, five-day week, and excellent working conditions. Write 5, Holborn Circus, Thavies Inn House, E.C.1, or telephone CITy 8811, quoting SLB in both instances. 7792

LARGE SCALE Development in London and Industrial Buildings in Home Counties. High office blocks and residential flats. Four ASSISTANT ARCHITECTS required. Senior and Intermediate standard. West End Office. Five-day week. Good salaries and bonuses. Box 8086. 8086

QUALIFIED ARCHITECT required. Bristol. Industrial/commercial experience. Scope for individuality and freedom of expression. Good salary. Interesting work. Pension scheme. ASSISTANTS of Intermediate standard also required. Details of experience to W. H. Watkins, Gray and Partners, 1, Clare Street, Bristol. 1. 7868

ARCHITECTURAL ASSISTANT required with good general training, capable of taking charge of London Office. Good opportunity for progressive young architect. Write giving particulars of qualifications and salary required to Box 7870.

NORMAN & DAWBARN invite applications from ARCHITECTURAL ASSISTANTS at Intermediate/Final standard with at least three years' office experience. Salary approximately £900 upwards. Write to: 7, Portland Place, W.1, giving full particulars. 7908

ARCHITECTURAL ASSISTANTS required. Intermediate and Final standards. State age, experience, salary, etc. D. Harvey & A. Scott, 3, Lynedoch Place, Glasgow, C.3. 7866

QUALIFIED ARCHITECT required, age approximately 28-35 years, particularly interested in high quality Exhibition and Interior work, to take charge of small design studio. Salary £1,500—£2,000. Box 7949.

ASSISTANTS required in West End Architects' Office. Salary up to £1,300. Box 8046.

ARCHITECTURAL ASSISTANTS, from R.I.B.A. Intermediate Standard, are required in the Nottingham office of a firm engaged on an extensive school and church programme. Applications stating qualifications, experience, and salary, etc., to: Messrs. Reynolds & Scott, F/A.R.I.B.A., 72, St. James's Street, Nottingham. 7916

TWO ASSISTANTS required: one at Intermediate standard and one qualified with some years office experience, for small busy office. Salary according to experience. Ring LANgham 1732 or write to F. G. Frizzell, A.R.I.B.A., 80, Portland Place, W.1. 8022

ARCHITECTS' Office with modern approach to design requires ASSISTANTS of Intermediate and Final standard. London or Reading, for interesting and varied work. Good salary. Eric G. V. Hives and Sons, 80, Wimpole Street, Cavendish Square, W.1, and 46, Queen's Road, Reading. Apply in first instance to Reading Telephone 55484/5). 8002

LOUIS DE SOISSONS, PEACOCK, HODGES & ROBERTSON have immediate vacancies in their Welwyn Garden City office for SENIOR and JUNIOR ASSISTANTS. Write stating age, salary and experience to the above at Midland Bank Chambers, Howardsgate, Welwyn Garden City, Herts. 7995

CROYDON. Experienced and competent SENIOR ARCHITECTURAL ASSISTANT required. Write stating fullest particulars to Graham Crump & Denis Crump, F./A.R.I.B.A., 43, George Street, Croydon. 7988

CROYDON. Alert, practical ARCHITECTURAL ASSISTANT required. Intermediate standard. Write giving particulars of experience, age, and salary required to Graham Crump & Denis Crump, F./A.R.I.B.A., 43, George Street, Croydon. 7989

YOUNG ASSISTANT required. Good draughtsman. Intermediate standard. Salary £400—£450 p.a. Five-day week. Telephone REGent 7561. 7986

CAPABLE ARCHITECTURAL ASSISTANTS (all grades) required in a modern office in Hemel Hempstead. Interesting and varied work. State age, training, qualifications and/or experience. Box 7978.

ARCHITECTURAL ASSISTANT required for busy office with interesting and varied work. Salary £950, two to four years' experience, depending on qualifications. Box 8004.

ARCHITECTURAL ASSISTANTS required in West End office. Should have good knowledge of building construction and several years' office experience. Box 7777.

ARCHITECTURAL ASSISTANT of Intermediate standard for University and Hospital work. Good salary, dependent on experience. Three weeks' holiday a year, and five-day week. Reply, stating age, experience, etc., to: Thomas Worthington & Sons, 178, Oxford Road, Manchester, 13. 8011

COLLCUTT & HAMP will welcome applications from experienced and enterprising STUDENT ASSISTANTS who are eager to pursue their studies and to take a responsible part in the work of a varied, interesting and busy practice. The office is very pleasantly situated, and the staff, though young, are keen and experienced. Five-day week. Phone: PRI 5157. 86, Prince Albert Road, Regents Park. 8017

ARCHITECTURAL ASSISTANTS required, R.I.B.A. Intermediate standard with some office experience. Varied and interesting work. Five-day week. Good salaries for keen and competent people. William Crabtree, F.R.I.B.A., 8, Robert Adam Street, W.1 (WELbeck 9909). 8033

£1,000/£2,000 p.a. will be paid to experienced competent ARCHITECTS by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box 8041.

ASSISTANT ARCHITECTS and STUDENTS are desperately required to help on schemes for hospitals, offices, colleges, housing, showrooms and a power station, scattered from Scotland to Nigeria, with ship interiors floating between. All the work, however, is done from our new offices in High Paddington. Please telephone for an interview. George, Trew and Dunn, Paddington 6611. 8043

PART TIME WORK. Qualified woman architect requiring part time office work, e.g. 3-4 days per week or equivalent, is invited to telephone Gerrard 3584 for an appointment. Small central London office with easy access by Northern and Central lines. 8201

FARMER AND DARK require experienced ARCHITECTS, all levels, Offices. Laboratories. Factories. Schools, etc. Apply in writing stating salary required. Romney House, Tufton Street, S.W.1. 8191

ARCHITECTURAL ASSISTANTS wanted, Intermediate and Final. Please write stating age, training and experience and salary required to: S. W. Wendes, 30, Quay Street, Newport, I.W. 8177

ARCHITECTURAL ASSISTANTS required immediately. Intermediate or final standard. 5-day week. Salary according to experience. Write or 'phone David Landaw & Partners, Chartered Architects, 7 Hill Street, W.1. GRO 5564/5. 8188

ASSISTANTS required immediately. Intermediate to Final standard, with some office experience. Interesting positions giving plenty of scope for responsibility and contract supervision in West End Office. Tel. MAYfair 9556 or Box 8174.

EXCEPTIONAL opportunity occurs for ARCHITECTURAL ASSISTANTS of Intermediate standard to gain experience in busy modern office dealing with industrial and commercial architecture at home and overseas. Scope for originality and contemporary design. Five-day week. Address applications, giving age, experience and salary required, to Stuart Bentley, F.R.I.B.A., Company Architect to the Dunlop Group of Companies, Fort Dunlop, Erdington, Birmingham, 24—marked "Architectural Assistants." 8090

ELIE MAYORCAS requires SENIOR ASSISTANTS with minimum of three years' office experience in this country. Write, giving particulars of architectural education and experience, and salary required, to: 13, David Mews, Baker Street, W.1. 8089

ARCHITECTURAL ASSISTANT urgently needed in Head Office of a large private practice; Intermediate/Final standard with a few years' office experience; salary up to £850, according to experience and ability. Superannuation scheme for married men. Apply in full detail to: Ruddle & Wilkinson, F/L/A.R.I.B.A., Long Causeway Chambers, Peterborough. 8100

C. H. ELSOM & PARTNERS require ASSISTANTS for work on theatres, laboratories, shops, stores and town centre redevelopment, etc. Apply to 10, Lower Grosvenor Place, S.W.1. VIC. 4304. 8114

INTERMEDIATE STANDARD ASSISTANT required for varied practice in either Kingston, Guildford or Dorking office of Barber, Bundy & Greenfield, F/A/A.R.I.B.A. Salary by arrangement. Reply to 5, Apple Market, Kingston-upon-Thames. (KIN. 0011.) 8112

ARCHITECTURAL ASSISTANTS required by Consulting Engineers for work on Power Station and other industrial buildings. Write, stating age, experience and salary required, to C. S. Allott & Son, North Parade, Manchester, 3. 8117

GRENFELL BAINES & HARGREAVES require SENIOR ASSISTANTS with at least four years' experience for interesting variety of work in their Manchester Office. Salary about £1,200 p.a. Please apply to: D. A. Cobb, 423, Oxford Road, Manchester, 13. 8118

SMALL Office about to expand offers opportunity for advancement to ASSISTANT of Intermediate standard. Must be good designer and able to take direct responsibility. Salary from £800. Telephone CENtral 5766 or write Box 8119.

ASSISTANT with office experience required for varied and interesting work. Opportunity for men with initiative to take responsibility. Salary up to £750 according to experience. Stewart & Hendry, F.F.R.I.B.A., A.M.T.P.I., 90, Fenchurch Street (Royal 6216). 8210

SEELY AND PAGET have an immediate vacancy in their City Office for an experienced and responsible ASSISTANT. Salary range £842×£52(4)—£1,050. Write: 41, Cloth Fair, E.C.1. or Telephone: MET 8511. 8208

JUNIOR ASSISTANT required for work in connection with exhibition and ancillary buildings (not stand design). Write giving details of age, training and salary required, to Staff Architect, Olympia Limited, Kensington, W.14. 8205

TOOTING ARCHITECT offers scope for initiative and training in busy and varied small office practice. Write age, experience and salary to G. E. Spicer, A.R.I.B.A., 45, Chillerton Rd., S.W.17. 8120

SENIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS required in company's architectural department in Nottingham, working on pre-fabricated systems and the design and construction of traditional buildings. Qualifications desirable but not essential. Varied experience and enthusiasm required. Please write to Staff Architect, W. J. Simms Sons & Cooke Ltd., Building and Civil Engineering Contractors and Pre-fabricators, Haydn Road, Sherwood, Nottingham. 8163

LONDON ARCHITECTS' OFFICE requires ARCHITECT for University work. Candidates must be well above average, with 5 to 7 years' responsible experience. Salary about £1,200. Telephone WHI 2552 for interview, or apply in writing to Box 8175.

LONDON ARCHITECTS require ASSISTANTS of Intermediate and of Final Standard for work on large scale University development. Salaries commensurate with experience. 5-day week. Telephone WHI 2552 or write Box 8176.

ARCHITECTURAL ASSISTANTS required in small busy office, good draughtsmanship essential, for work on houses and flats. Salary £12 per week. Apply: R. Jelinek-Karl, F.R.I.B.A., 6, Buckingham Street, W.C.2. TRA. 3020. 8137

EXPERIENCED ASSISTANT required to supervise Architects' office, West London. Interesting and varied work. Box 8170.

COUNTRY PRACTICE in the Cotswolds. Qualified ARCHITECTURAL ASSISTANT required capable of taking charge. Varied and interesting work including Domestic and Rural Housing. Apply stating age, experience, etc., to Kenneth B. Mackenzie, F.R.I.B.A., Bibury, Cirencester, Gloucestershire. 8159

BIRMINGHAM. Clifford Tee & Gale, F/F.R.I.B.A., require experienced Senior ASSISTANTS and experienced Intermediate standard ASSISTANTS for interesting industrial and commercial work in a congenial atmosphere. Five-day week. Three weeks' holiday after two years' service. Profit-sharing scheme. Pension scheme. Please apply to Mr. R. G. Cox, F.R.I.B.A., 43, Frederick Road, Birmingham, 15. Tel.: EDGbaston 3676. 8133

GRAVESEND and Rochester—Opportunity in expanding Offices. MALE or FEMALE ASSISTANTS required on wide variety of work. Pension Scheme. Salary up to £1,000 p.a. Evening interviews if required. Write or 'phone: George E. Clay & Partners, A/A.R.I.B.A., 198, Parrock Street, Gravesend. Tel.: Gravesend 1401/2. 8123

ARCHITECTURAL ASSISTANT, about Intermediate standard, required for general practice in North Devon Office. Pension scheme. Box 8124.

ASSISTANT ARCHITECT, Final standard, required, also ARCHITECTURAL ASSISTANT, Intermediate standard, for West End Architect's Office, for Hospital, Commercial and Overseas projects. Pension scheme and luncheon vouchers. Salary by arrangement. Telephone LANgham 4091 for appointment. 8125

VACANCIES for SENIOR and INTERMEDIATE GRADES on varied and interesting work. Good salary in accordance with experience. Five-day week. Fitzroy Robinson & Partners, CHAncery 2111, Ref. GWJ. 8147

WANTED.—ARCHITECTURAL ASSISTANT to work on varied and interesting projects. Excellent salary to suitable applicant. Apply to T. A. Page Son & Hill, F/F.R.I.B.A., 75, King Street, South Shields. 8146

ARCHITECTURAL ASSISTANT required for busy office, good conditions, interesting industrial and commercial work. Apply, stating age, experience and salary, and enclosing copies of testimonals to: Mr. G. Yarwood, F.R.I.B.A., The Barnsley British Co-operative Society, Ltd., Twibell Street, Barnsley. 8134

WEST END Architects require Intermediate and Final standard ASSISTANTS for interesting commercial developments in London and Provinces. Genuine prospects for advancement to applicants with ability and initiative. Salary range £600—£1,000. Telephone Langham 9251 or write giving particulars of experience and salary required to Newman, Levinson & Partners, 9, Mansfield Street, London, W.1. 8238

A FIRST RATE London practice in the Baker Street area. Recommended by Senior Assistant to those considering a move. I will write to all who reply and give full details of our varied work, profit sharing and pension schemes, and a description of this progressive office. The partners are realistic about salaries and nobody stands still after joining us. Box 8241.

WORCESTERSHIRE. Required immediately in busy office, SENIOR and/or JUNIOR ASSISTANTS. Must be good draughtsmen with keen sense and appreciation of design. Programme of varied and interesting work in pleasant surroundings. Pemberton & Bateman, F./R.I.B.A., 21, Vine Street, Evesham. 8212

ARCHITECTURAL ASSISTANT required for busy practice. Approximately Intermediate standard. Interesting and varied buildings, design and detail drawings in all stages. Five-day week. Shaw & Lloyd, 74, Great Russell Street, Bloomsbury Square, W.C.1. Museum 9693. 8010

ARCHITECTURAL ASSISTANTS required in an expanding Architect's office in following professional grades. Grade II, £400—£600 per annum; Grade III, £600—£800 per annum; Grade IV, £800—£1,000 per annum. To deal with local authority housing, commercial and industrial contracts, agricultural developments, etc. Applicants in Grade III and IV to be able to initiate and run own contracts. Apply stating age and full details of experience to A. Roscoe-Hudson, A.R.I.B.A., 14, Market Place, Faringdon, Berks. 7950

CAPABLE and ambitious young ARCHITECT to join a large and expanding Estate Development Department specialising in housing and multi-storey flats. The appointed applicant will have some personal responsibility for design and detailing, requiring design common sense, constructional knowledge and speed. Write, stating qualifications, if any, experience and salary to The Unit Construction Co., Ltd., Central Way, Faggs Road, Feltham, Middlesex. 8283

W. H. SAUNDERS, SON & WATERS, 53, Goodge Street, London, W.1. Tel. LANgham 9908/9. require an efficient and experienced ASSISTANT. Salary according to experience. Very interesting work starting at design stage and administrating contracts. 8272

ARCHITECTS' Department Schweppes Group require ASSISTANTS, 5 years' experience, of Intermediate to Final Standard to work in new offices on factory extensions, new depots, offices and canteens. Assistants will be required to undertake full administration of contracts. Survey knowledge is an advantage. Salary by arrangement. Canteen facilities available. Please telephone AMB. 1212, Extension 326, or write to The Architect, Schweppes Limited, 50 Eastbourne Terrace, Paddington, W.2. 8309

ARCHITECTURAL ASSISTANTS required at our Poole and Bolton offices, salaries £500—£1,000 according to experience. Reply to W. Leslie Jones & Partners, 59 High Street, Great Missenden, Bucks. 8276

ARCHITECTURAL ASSISTANTS (R.I.B.A. Inter-Final standard) required to work in a cheerful office in the clean air of Woking, on a varied programme of new work from bungalows to 15 storeys. Please telephone Woking 5551/2 for an appointment with Osborn & Hollis A/ARICs to have your fortune told. 8277

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ARCHITECTURAL ASSISTANTS: Qualified, Intermediate standard, and a Junior, required for interesting industrial, hospital and educational schemes. 5-day week. Salary by arrangement. Apply giving full particulars to Harry Banister & Partners, 67 Rodney Street, Liverpool 1. 8282

RICHARD SHEPPARD, ROBSON & PARTNERS require ARCHITECTURAL ASSISTANTS. Intermediate or Final standard. 5 Southampton Place, W.C.1. CHAncery 4261. 8284

KEEN ARCHITECTURAL ASSISTANTS. Final and Intermediate Standards, with desire for responsibility wanted immediately. Only good draughtsmen welcome. Site experience available, as well as drawing office. 5-day week. Details to Felix Walter, F.R.I.B.A., 4 Raymond Buildings, Gray's Inn, W.C.1, or 'phone HOLborn 0535. 8286

ASSISTANT ARCHITECTURAL DESIGNER required by the Richard Henry Design Unit. Good and speedy draughtsmanship essential, coupled with an ability to handle and develop details in the shop fitting and interior design field. Apply in writing to Michael F. Tollit, Esq., Collingwood House, Mercers Road, N.19. 8289

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ARCHITECTS

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ARCHITECTS

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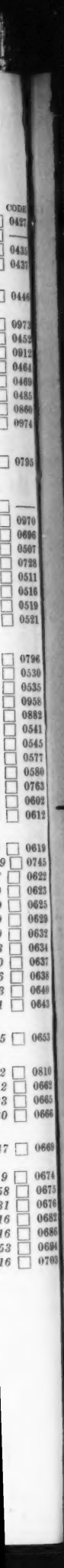
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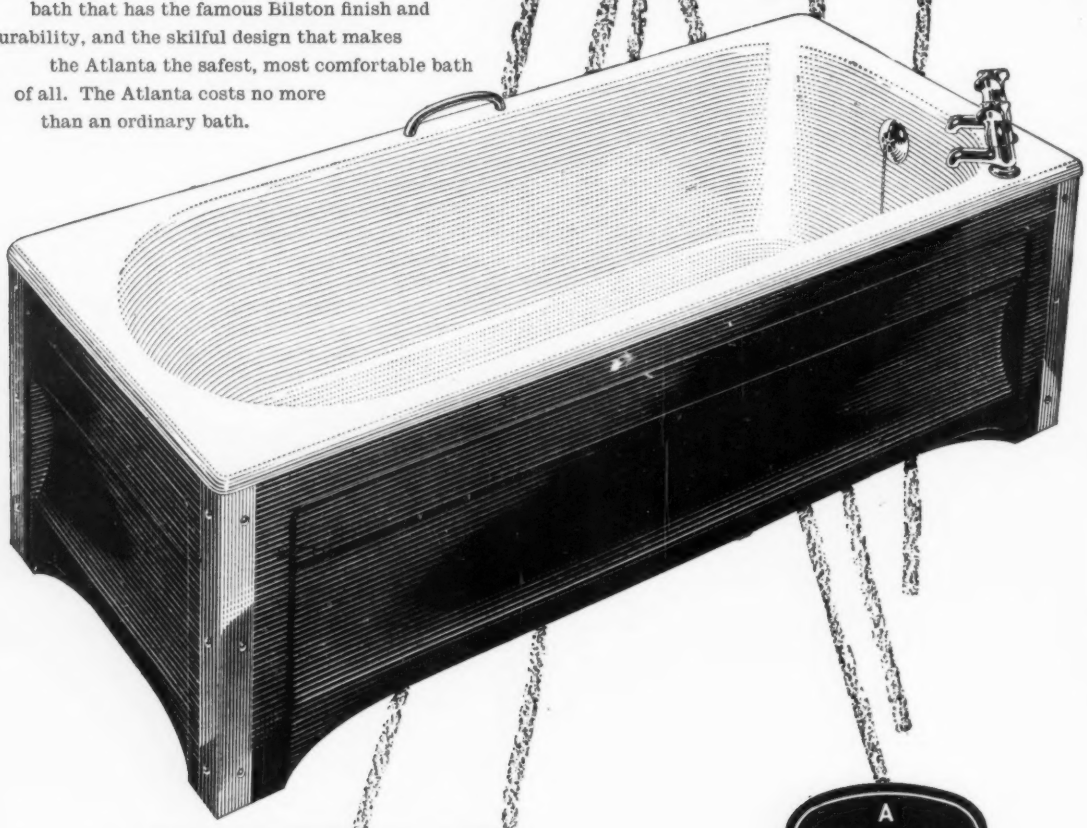
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